DOCUMENT RESUME

ED 445 496 EF 005 779

TITLE	Educational Specifications: Milton J. Brecht Elementary School.
INSTITUTION	Manheim Township School District, Lancaster, PA.
PUB DATE	1998-09-25
NOTE	68p.; Produced by the Brecht Education Specification Committee.
PUB TYPE	Reference Materials - General (130)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Classroom Design; Educational Environment; *Educational Facilities Design; Educational Theories; Elementary Secondary Education; Public Schools
IDENTIFIERS	Lancaster School District PA

ABSTRACT

This document presents recommended facility specifications for the Milton J. Brecht Elementary School (Lancaster, Pennsylvania) designed to contribute to children's learning through the application of multiple intelligence theory and more recently emerging brain based learning knowledge and theory. The report examines the grade levels to be accommodated, enrollment capacity expectations, curricular programs and activities, specific utilization plan, instructional procedures, learning space requirements, specialized instructional facilities, auxiliary areas/facilities, and site issues. Miscellaneous concerns such as intercommunications, waste management, heating and air conditioning, acoustics, and signage are also addressed. Appendices contain the key points of the multiple intelligence theory; a teacher's typical day at Brecht; a memo on wireless possibilities; thoughts concerning room specifications for art, music, and physical education; and the Post Occupancy Classroom and Building Survey. (GR)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 445 496

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Sharon Nelson
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
1

Educational Specifications
Milton J. Brecht Elementary School

Manheim Township School District

Prepared by: The Educational Specification Committee
Manheim Township School District
Lancaster, Pennsylvania
September 25, 1998

EF 005 779

BEST COPY AVAILABLE

This document was produced by The Brecht Education Specification Committee, Manheim Township School District. Committee members included:

Tony Aldinger
Janet Anderson
David Anstrand
Betsy Cook
Nan Droz
Dara Hart
Ann Kramer
Bruce MacGregor
Sharron Nelson
John Riegel
Sue Zeager

These educational specifications are intended to convey only recommended educational and instructional needs to the Architect. There should not be an interpretation that the statements contained herein place any limitation upon the technical or design skills of the Architect and his design team members.

Table of Contents:

1.0 Educational Philosophy
1.1 Mission Statement
1.2 Philosophy Statement Regarding Educational Facilities
1.3 Building "Signature"
1.4 Community Use of Facilities

2.0 Grade Levels to be Accommodated
2.1 Grades and Ages
2.2 Half Day Kindergarten
2.3 Other Programs

3.0 Enrollment Capacity Expectations
3.1 Grouping of Students
3.2 Future Planning

4.0 Curricular Programs and Activities
4.1 Theories of Learning
4.2 School Subjects
4.3 Student Activities
4.4 Support Services

5.0 Specific Utilization Plan
5.1 Year-Around Instruction
5.2 Evening / Weekend Community and Recreational Use

6.0 Instructional Procedures
6.1 Curriculum Modification
6.2 Today's Learner
6.3 Technology
6.4 Team Teaching
6.5 Multiage Group Teaching
6.6 Other

7.0 Learning Space Requirements
7.1 Kindergarten
7.2 1-5 Classrooms
7.3 Special Education
7.4 Special Needs Testing/Instruction Rooms

8.0 Specialized Instructional Facilities
8.1 Library / Media Center
8.2 Art
8.3 Music
8.4 Computer Laboratory
8.5 Gymnasium / Auditorium
8.6 Little Theater / AV Production

9.0 Auxiliary Areas / Facilities
9.1 Administration / Guidance
9.2 PTO / Safe Arrival Room
9.3 Health
9.4 Faculty Dining / Work Room
9.5 Food Service
9.6 Cafeteria / Large Group Instruction
9.7 Building Services
9.8 Restrooms

10.0 Miscellaneous Concerns
10.1 Integrated Systems
Clocks
Bells
Intercommunications
Telephones
Fire Alarms
Security Systems
10.2 Waste Management
10.3 Acoustics
10.4 Illumination
10.5 Heating, Ventilating and Air Conditioning
10.6 Visual Environment
10.7 Signage

11.0 Site Issues
11.1 Vehicular Circulation and Parking
11.2 Pedestrian Circulation
11.3 Outdoor Play Areas
11.4 Outdoor laboratory/Classroom
11.5 Outdoor Lighting
11.6 Dumpster Requirements and Location
11.7 Landscape Materials

Appendices:

A. Multiple Intelligence Theory Simplified

B. Brecht Teacher's (Sue Zeager) Typical Day

C. Memo – Brecht Wireless Possibilities

D. Art Education Interview

E. Music Education Interview

F. Physical Education Interview

G. Post Occupancy Survey Results – Neff, Nitrauer and Reidenbaugh

1.0 Educational Philosophy

1.1 Mission Statement:

The Mission of Manheim Township School District, building on its tradition of academic excellence, is to graduate students possessing personal integrity, a broad base of knowledge, an appreciation of cultural diversity and skills in thinking and communication all acquired through an innovative learning system which encourages creativity, individual development and prepares citizens for success in a global society.

1.2 Philosophy Statement Regarding Educational Facilities:

Township educational facilities should provide an outstanding environment in which students can grow in mind, body and spirit. Where faculty and administrators can achieve their highest professional goals. Where parents feel welcome and where the community activities can flourish.

The Brecht environment should support teaching strategies based on Howard Gardner's theory of multiple intelligences. Learning opportunities should exist for: verbal/linguistic, logical/mathematical, visual/spatial, bodily/kinesthetic, musical, interpersonal, intrapersonal and naturalist learners.

1.3 Building Signature:

An idea that has gathered supporters during recent years is that of a building "signature." A building signature such as a "living wall" in a school with a special nature focus or huge aquarium in a school with a marine biology focus become architectural elements that symbolize a special educational focus.

Brecht will not have a building signature in the usual sense. Instead, the entire building should be a celebration of learning with a multiple intelligence learning theme. The facility and grounds should contribute to children's learning through the application of multiple intelligence theory and more recently emerging brain based learning knowledge and theory.

1.4 Community Use of Facilities:

The school facility and site would be available to support community activities such as: before and after school programs, a meeting place for community organizations, recreational programs, etc.

2.0 Grade Levels to be Accommodated

2.1 Grades and Ages:

Brecht will continue to be a kindergarten through fifth grade facility. K-5 grouping is standard in the School District. Currently or in the planned future, there are no plans to introduce a pre-K program. The facility will typically house five to eleven (5-11) year old children.

2.2 Half Day Kindergarten:

Township continues to support a half day kindergarten program. Children are provided transportation by the School District to morning kindergarten. Parents are expected to provide transportation home from the morning session. Parents are expected to provide transportation to the afternoon session. The School District will provide transportation home after the afternoon session.

There are no plans to introduce all day kindergarten.

2.3 Other Programs:

A non-profit foundation provides a before and after school child care service. This service is fee based and will reside in the school building.

3.0 Enrollment Capacity Expectations

3.1 Grouping of Students:

2 - kindergarten	= 50 students
2 - first grades	= 50 students
2 - second grades	= 50 students
2 - third grades	= 50 students
2 - fourth grades	= 50 students
2 - fifth grades	= 50 students
	300 students

Note: one kindergarten room used for morning and afternoon classes

3.2 Future Planning:

The school would be planned to operate continuously at the above population. Two "bubble" classrooms should be provided for enrollment flexibility. The school should be designed to handle a maximum of 425 students by utilizing some of the specialized instructional facilities as standard classrooms.

4.0 Curricular Programs and Activities

4.1 Theories of Learning:

Brecht education will be based on Howard Gardner's theory of multiple intelligence. This theory states that individuals learn through different intelligences utilized in varying degrees for any one subject. The intelligences are:

Linguistic Intelligence

Logical/Mathematical Intelligence

Spatial Intelligence

Musical Intelligence

Bodily/Kinesthetic Intelligence

Interpersonal Intelligence

Intrapersonal Intelligence

Natural World Intelligence

The school environment should promote learning through the student's multiple intelligences.

4.2 School Subjects:

The Brecht curriculum is based on standard, State required, subjects. The subjects include language arts, mathematics, science, social studies, physical education, health, art and music.

MTSD is placing increased emphasis on student assessment. During the implementation of new assessment tools, the District will be reviewing curriculum design and curriculum instruction.

4.3 Student Activities:

Student activities include:
- Cub Scouts
- Brownies
- Envisions(MTSD's before and after school program)
- music programs
- dramatic Programs
- Spring Field Day
- Odyssey of the Mind
- Community Involvement Events
- Gym Show

4.4 Support Services:

Support services include:
- Guidance Counselor
- Reading Support
- Speech
- Special Education
- Excel
- English as a Second Language(ESL)
- Instructional Support Team(IST)

5.0 Specific Utilization Plan

5.1 School Calendar:

School begins just before Labor Day, breaks for Christmas Vacation for about ten days and concludes at the end of the first week in June. The school day begins at 9:00 AM and concludes at 3:30 PM. The facility will be used during the summer to support summer school

summer camp(six weeks) and day care activities.

5.2 Evening /Weekend Community and Recreational Use:

Monday Evening: MT basketball travel team.
Tuesday Evening: Cub Scouts
Wednesday Evening: Cub Scouts
Thursday After School: Brownie Troop.
Thursday Evening: Cub Scouts and Men's Volleyball.
Friday After School: 2nd Grade Basketball.
Monday-Thursday Evenings: MT Parks and Recreation use the Gym at various times.

Brecht has not been used for weekend activities.

6.0 Instructional Procedures:

6.1 Curriculum Modification:

The State has mandated student standards and assessments. This initiative has prompted the District to develop an extensive set of standards and assessments to be applied across most subject areas. This process will modify and change currentcurriculum.

6.2 Today's Learner:

Active: more space to move about, areas for flexible groups, places to do projects, set displays, more storage for manipulatives, areas for whole group activities.

Curious: tables and space to explore, areas available to set up longer term displays.

Cooperative: places for groups to meet/work, areas to work on group projects and to display projects.

Computer Literate: access to computers, research materials, places to store equipment.

Independent: places in classrooms for quiet individual work time.

Part of a family that is involved in many activities: areas for volunteers, community to be active partners in school.

Faced with family/societal problems: small/large group meeting areas, areas for "time out."

6.3 Technology:

Technology has become an integrated part of the curriculum in many areas. Technology delivers data, video and voice to each instructional and administrative area that is part of local area networks and of I.U. 13's wide area network. The networks provide data for various learning activities, for monitoring curriculum coverage, for recording attendance, for monitoring student and academic progress and for E-mail communications.

Software used by students and teachers will provide operating systems for workstations, tool-based applications(i.e., work processing, spreadsheets, databases, graphics, drawing, scheduling, etc.), integrated learning systems and CD-ROMS.

Voice access will provide contacts through phone service, voice mail, and voice bulletin boards offering updates on homework and other parent/teacher links.

Two way video will provide added learning opportunities through cable TV, satellite communications and the use of VCR's and cameras.

Technology should be viewed as an integrated system.

6.4 Team Teaching:

Team teaching is used by teachers on an informal basis at Brecht. Team teaching could become more formalized in the future. Teaching areas should be designed to facilitate team teaching by keeping grade levels together (not around corners and down corridors).

6.5 Multiage Group Teaching:

Brecht does not currently have multiage group teaching. This strategy has been used in one of the other elementary schools (grouping K-2) with success. The option of multiage group teaching should be preserved.

6.6 Other:

7.0 Learning Space Requirements:

7.1 Kindergarten:

Philosophy/Objectives: children learn through exploration and discovery of the world them.

Objectives:

1. To guide students as they begin a more formal approach to the basic subjects.
2. To provide support and direction as students begin to grow cognitively, socially and emotionally.

Spatial Requirements:

Space	No.	Size
Classroom	1	1,150 s.f.
Bathroom	1	40 s.f.
Kitchenette	1	100 s.f.
Storage	1	100 s.f.

Note: An additional classroom shall be provided with access to kindergarten kitchenette that in times of enrollment needs, could be used as a kindergarten classroom.

Educational Activities:

The classrooms will provide space for large and small group or center activities. Students will need space to gather as an entire class, to work in work areas, and to interact with others at activity centers. Classroom should include an alcove or nook for independent activities or time-out. Teachers should be able to see parents drop-off and pick-up area from the classroom. If possible, teachers should be able to see parent pickup and drop-off area from the classroom.

Environment:

Flooring:
- vinyl tile area for easy maintenance after painting, etc.
- carpeting in activity area.

Systems:

Temperature and Ventilation:
- Operable windows.
- Teacher to control classroom temperature.

Plumbing:
- Low sink/drinking fountain in classroom.
- water closet and lower sink in rest room.
- sink in kitchenette.
- ice maker line for refrigerator.

Electrical:
- Kitchenette - range, refrigerator, etc.
- many convenience outlets.

Lighting:
- natural light
- non-glare, full spectrum, artificial light with ability to vary light level.

Communications:
- voice mail at phone
- phone capable of calling outside school to parents.
- access to voice, video and data networks.

Equipment and Storage:

- tables and chairs.
- food preparation area (adult use) refrigerator, range.
- shelves/cupboards for storage.
- industrial type shelving in walk-in storage closet.
- storage for student coats and personal belongings.
- water/sand table.
- easels
- TV, VCR and projection screen.
- teacher computer/student computers.
- piano or electronic keyboard.
- digital camera.

Space Furnishings:

- lower bulletin boards.
- magnetized chalk/marker boards.
- shelving for classroom library.
- flat file drawers for posters.
- lockable teacher closet.
- counter areas around sinks should contain spilled water.

Space Relationships:

- door to outside play area designed for kindergarten students.
- adjacent to music, library and office.
- near gymnasium.
- adjacent to parent drop-off and pick-up area.

7.2 1-5 Classrooms.

Philosophy:

The elementary program will build a foundation of concepts and skills upon which new learning end states will develop.

Objectives:

To help students develop and refine skills and increase competence and confidence.

1. To guide students as concrete ideas begin to be represented by more abstract symbols and ideas.
2. To guide students as they grow physically and emotionally.

Spatial Requirements:

Space	No.	Size
Classroom	13	900-1,100 s.f.
Office(shared)	6	100 s.f.
Small Group Ins.	2	450 s.f.
Special Ed.	1	900-1,100 s.f.

Note: Utilization of all classrooms should allow school to operate as a three(3) classes per grade elementary school. Except in times of enrollment "bulges," Brecht would be used as a two(2) class per grade level school.

Educational Activities:

The classrooms will be used for various activities including small group instruction, individual work and cooperative learning activities. Students will need areas to work at tables and desks, but also areas for movement and floor activities. Classrooms should include an alcove or nook for independent activities or time out area.

Systems:

Temperature and Ventilation:
- Operable windows.
- Teacher to control classroom temperature.

Plumbing:
- sink/drinking fountain in classroom.
- restroom w/ water closet and lower sink in first grade classrooms.
- hot and cold water.

Electrical:
- many convenience outlets.
- Outlet in center of wall under projection screen for overhead projector.

Communications:
- voice mail at phone
- phone capable of calling outside school to parents.
- access to voice, video and data networks.

Lighting:
- natural light
- non-glare, full spectrum, artificial light with ability to vary light level.

Environment:

Flooring:
- vinyl tile area for messy activities.
- carpet area for floor activities.

Equipment/Storage:

- tables, desks and chairs
- shelves/cupboards for storage
- storage for coats and student's personal belongings at student height.
- flat file storage for posters.
- TV, VCR, and projection screen.
- student computers.

- teacher's technology unit.

Space Furnishings:

- bulletin boards
- marker/chalk boards w/magnetic capability.
- shelving for classroom library
- lockable teacher closet.
- adequate counter space for aquariums, etc.

Space Relationships:

- classrooms should be in "quieter" zones in building.
- Locate special education rooms central to classrooms.
- Make provisions such that doors can be kept open at the beginning and ending of the school day.

Other:

7.3 Special Education(Inclusion):

Philosophy/Objectives:

Students deserve as many opportunities as possible, on a regular basis, to interact with other students and the best materials and technology within a conducive learning environment. This environment may include placement of students within regular classrooms or scheduling special needs students in a separate classroom.

Spatial Requirements:

Space	No.	Size
Classroom	1	900-1,100 s.f
Storage Closet	1	80 s.f.

Systems:

(see 1-5 classrooms, Section 7.2 above)

Environment:

(see 1-5 classrooms, Section 7.2 above)

Equipment /Storage:

(see 1-5 classrooms, Section 7.2 above)

Space Relationships:

(see 1-5 classrooms, Section 7.2 above)

7.4 Special Needs Testing/Instruction Rooms:

A quiet location is needed for specialists who evaluate unique needs of individual students(e.g., psychologist, instructional support teacher, occupational and physical therapists, speech clinicians and English as a second language teachers). Testing and instruction take place and specialists must be able to hear the student's responses. In addition, identified student needs addressed by gifted teachers and reading specialists require added instructional areas.

Spatial Requirements:

Space	No.	Size
Speech Ther/ IST	1	250 s.f.
ESL	1	250 s.f.
Reading and Math Support	1	300 s.f.
Itinerants' Office	1	250 s.f.

Educational Activities:

- individual, small group or specialized larger group instruction.

Systems:

Temperature and Ventilation:
- Operable windows. Teacher to control classroom temperature.

Electrical:
- many convenience outlets.

Communications:
- voice mail at phone
- phone capable of calling outside school to parents.
- access to voice, video and data networks.

Lighting:
- natural light

non-glare, full spectrum, artificial light with ability to vary light level.

Environment:

Room Finishes:
- carpet for acoustical control
- bright, cheerful colors

Furniture and Equipment:

- large table for small groups(sized for student use).
- wall mounted mirror in therapists'/clinicians' area
- teacher's desk
- shelves(particularly in reading)
- filing cabinets(lockable)
- student desks/chairs for individual work
- computer for each specialist.
- Student computers.

Storage:

- lockable teacher wardrobe
- closet

Space Furnishings:

- chalkboard at the front and side of the instructional area(magnetic), bulletin board on one wall

Spatial Relationships:

- place in close proximity to each other(some students see more than one specialist), and
- central to K-5 classrooms.

8.0 Specialized Instructional Facilities

These are spaces specially designed for the teaching of specific subjects.

8.1 Library / Media Center

Philosophy:

The philosophy of the Brecht library/media program is to provide facilities, personnel, resources and activities that will promote lifelong learning through information literacy and an enthusiasm for reading and literacy. Further the library/media center should also support learners other the verbal/linguistic learners including support for the other seven types of learning.

Objectives:

- facilitate the teaching-learning process by providing access to resources and services to satisfy both the individual and instructional needs of students.
- create an atmosphere that promotes inquiry, creativity, self-direction, communication of ideas and the ability to use rational processes.
- provide an environment in which different learning styles can be accommodated and in which individuals and large and small groups can receive information through a variety of media.

Spatial Requirements:

Space	No.	Size
Ind Reading	1	1,200 s.f.
Story Area	1	300 s.f.
Class Area	1	700 s.f.
Study Carrels	4	60 s.f.
Elec Card Cat.	1	400 s.f.
Circ. Desk	1	200 s.f.
Work Room	1	300 s.f.
AV Storage	1	200 s.f.
AV Production	1	400 s.f.

Systems

Electrical:
- under floor data and electrical receptacles to serve study tables (to be modified if wireless technology is used).
- sufficient electrical receptacles to support equipment.
- data and TV head ends located in close proximity to media center.

Lighting:
- media center should be designed for audio-visual presentations.
- natural lighting.
- general artificial lighting should be non-glare and full spectrum.
- special lighting should be provided in AV production room.

Communications:
- telephones to be provided in story area, work room, circulation desk, AV production room.
- data networks for computerized circulation system and computer networking.
- possible application of wireless networking.
- clocks in major spaces.
- intercom only for emergency messages.
- cable TV jacks in convenient locations throughout media center.

Plumbing:
- sink in workroom.
- no drinking fountain should be located in media center but in adjacent corridor or common area.

Environment:

Sound:
- acoustical treatment to reduce noise throughout media center.
- special acoustical isolation/treatment for the AV production room.

Floor:
- carpet in student areas.
- vinyl tile in work areas.

Walls:
- neutral colors.
- windows between main media center and adjacent student and work spaces.

Furnishings:

- bulletin boards and display areas for new books and special projects.
- tables and chairs.
- chalkboard in classroom and story area.

Equipment:

- computer stations for student use.
- centralized computer catalog stations.
- teacher station connected to large screen monitor and computer for demonstrations.
- TV, VCR, projection screen.
- specialized AV equipment for AV production room.

Storage:

- expandable shelving for AV materials
- expandable shelving for print collection.
- expandable metal shelving in work room.
- counter w/below counter drawers and cabinets in work room.
- wardrobe for librarian and staffs' personal items.

Space Relationships:

- located centrally for students and staff.
- close proximity to restrooms.
- adjacent to outside entrance for possible community use.
- handicapped accessible.
- adjacent to outdoor reading/teaching area.
- Circulation area away from teaching area(s).

Other:

The library/media center should have enough space to provide a safe, welcoming, stimulating and handicapped accessible environment in which students can interact with other students and adults while using library skills in a fully integrated curriculum fostered by the collaboration of the librarian and classroom teacher.

8.2 Art:

Philosophy/Objectives:

The art curriculum and facility provides a means for visual and spatial learners to express themselves. Art strengthens students abilities to visualize in two and three dimensions, create models, illustrate concepts, abstract and simplify complex patterns and thoughts, etc. Art also provides a cultural connection to past and current artists and their work.

The objectives are:

- to tap students' creative potential.
- strengthen students' 2D and 3D perception abilities.
- to increase each student's knowledge and appreciation of art.
- to increase students' appreciation of their environment.
- to inspire creativity.

Spatial Requirements:

Space	No.	Size
Classroom	1	1,200 s.f.
Supply Room	1	300 s.f.
Kiln Room	1	300 s.f.

Educational Activities:

The classroom will be used for the production of 2D and 3D artwork, artist demonstrations, lectures and audio/visual presentations. Concentration will be in the following areas: painting, drawing, sculpture and pottery. Media used will include pencil, ink, watercolor, acrylics, charcoal, pastels, clay and various 3D materials such as wire, wood, etc.

Community Activities:

Protected display areas are needed in close proximity to the art room for display of students' work.

Systems:

Electrical:
- electric kiln installation.
- exhaust hood
- outlets for a mobile computer work station.
- many convenience receptacles around classroom and in supply room.

Lighting:
- natural light, north facing if possible.
- full spectrum, non-glare, general purpose lighting.
- accent lighting for special display areas.

Communication:
- telephone/intercom
- data network connections
- stereo system
- large TV monitor that can be connected to a computer
- VCR
- projection screen.

Plumbing:
- 10' long stainless steel sink w/ 6 facets equally spaced, should include a plaster trap located in classroom.
- large single compartment sink in supply room.

HVAC:
- operable windows.
- kiln room ventilation.
- fume hood.
- teacher controlled room temperature thermostat.

Equipment:

- heavy duty tables and stools
- teacher work/demonstration station.
- kiln
- clay storage containers
- clay drying racks.
- TV monitor w/VCR
- computer
- roll paper dispenser.
- large paper cutter
- materials cart.

Storage:

- tall storage cabinets w/adjustable shelving in classroom.
- Identification tag holders on cabinet doors.
- base cabinets along one wall in supply room.
- 24" deep industrial metal shelving in supply room capable of holding heavy paper supplies.
- lockable vented metal cabinet for storage of paints, etc.
- flat files for posters, poster board, etc.
- teacher wardrobe.
- Door from corridor directly in to supply storage room for teacher access.

Environment

- vinyl tile flooring
- all surfaces to be easily cleaned.
- acoustical treatment to "quiet" active room.

Space Furnishings:

- chalkboard/markerboard on one wall.
- tackable display areas for student work.
- display area for 2 and 3-dimensional student work.

Spatial Relationships:

- supply room adjacent to and opening to classroom.
- close to library and music areas.
- adjacent to student restrooms.

8.3 Music:

Philosophy/Objectives:

The music curriculum and facility provides a means for musical learners to express themselves. Musical learners learn through activities which involve music, rhythm, melody and sounds.

The objectives are:
- to tap students' creative potential.
- to read music.
- to play basic musical/rhythm instruments.
- to develop singing skills.
- to expose students to music from different cultures.
- to inspire creativity.

Spatial Requirements:

Space	No.	Size
Classroom	1	1,200 s.f.
Inst Practice Rm	1	250 s.f.
Inst. Storage	1	250 s.f.

Educational Activities:

Students will participate in a variety of learning activities that include opportunities to perform within a group and individually, i.e., choral participation, instrumental instruction, composing, listening, dancing, etc.

Systems:

Electrical:
- many convenience outlets.

Lighting:
- natural light
- non glare, full spectrum, light controllable with different light levels.

Communications:
- telephone/intercom
- data network connections
- stereo system
- large TV monitor that can be connected to a computer
- VCR
- projection screen.

Plumbing:
- sink in music room and close to instrument practice room for the cleaning of instruments.
- water fountain at sink.

HAVC:
- operable windows
- equipment and air noise should not be noticeable in classroom or practice spaces.
- temperature control by teacher.

Environment:

Sound:
- should be acoustically "live."
- should be sound absorbing; acoustically isolated from adjacent spaces.
- special attention to acoustical treatment of doors.
- high ceilings, if possible.

Flooring:
- carpet
- vinyl inset at sink/drinking fountain.

Equipment:

- stereo sound system
- piano
- small instruments
- music files
- music stands
- electronic keyboard(s)
- MIDI synthesizer
- portable risers
- TV/VCR
- computer
- percussion and melodic instruments
- music chairs
- teachers desk

Furnishings:

- chalkboards(magnetized)
- tack boards

Storage:

- tall cabinets for instrument and music storage.
- teacher wardrobe
- book cases
- storage shelving for music storage area.

Spatial Relationships:

- Music suite should be centrally located.
- Could serve as a staging area for school productions if close to the stage.
- Acoustical isolation from other building uses is important.

8.4 Computer Laboratory:

Philosophy/Objectives:

The District does not plan to provide a computer laboratory. Instead, laptop computers will be made available to various classes. The computers will use wireless technology. A hub using infrared technology will be mounted in the ceiling of each teaching space. The hubs will be connected via a fiber backbone.

8.5 Gymnasium / Auditorium

Philosophy/Objectives:

A diversified physical education program is planned to meet the age appropriate needs of all students which will include class instruction, recreation, and adaptive programs. Bodily/kinesthetic learners need opportunities to move, touch, do and "become." The program is designed to provide opportunities for self-identification, developing self-confidence, personal responsibility and individual initiative.

The objectives are:

- to encourage students to participate in an activity to the best of their ability, stressing that the physical activity is a basic part of the physical, emotional, social and spiritual development of all human beings.
- to provide the opportunity for students to develop desirable attitudes of sportsmanship, cooperation, courtesy, responsibility, appreciation of the skill of others and an understanding of the strategies employed while playing a particular sport.
- to develop physical fitness and an awareness of the need for physical fitness as it pertains to the individual now and in the future.
- to provide an opportunity for all students to be part of a team, and as such, to learn to work together for the benefit of all members.

The District is still investigating the community use of this facility which will affect design. If the gym is a full function community facility, full size basketball and volleyball courts would be planned. If not, an age appropriate(K-5) facility is desired. Locker rooms would be provided for a community use gym but would not be provided for a strictly K-5 facility.

Spatial Requirements:

Space	No.	Size
Gymnasium	1	2,400 s.f.
Gym Office	1	120 s.f.
Gym Storage	1	300 s.f.
Stage	1	575 s.f.
Stage Storage	1	200 s.f.

Educational Activities:

- Activities emphasize group experiences, games and physical fitness.
- The stage is used for large group programs, plays and other performances.

Community Activities:

- The issue of community use is not resolved. If Township builds a recreation center at a near-by location, there would be less need for community use of Brecht as a basketball/volleyball court.
- The facility would be available for outside K-5 programs such as Boy Scouts, Girl Scouts, etc.

Systems:

Electrical:
- convenience receptacles along walls.
- simple score board with ball protection.
- motorized projection screen at stage
- convenience receptacles along stage walls and at foot of stage.

Lighting:
- glare free lighting - HID metal halide type in gym.
- general purpose and special purpose lighting at the stage.

Communications:
- phone and data jacks in gym office, at several locations in gym and stage(protect from balls, etc.)
- sound system to include amplifier, speakers, and jacks for microphones, set up for wireless mikes.
- ADA hearing assistance equipment if required.
- clock in gym.

Plumbing:
- bathroom w/shower as part of gym office.
- water fountain in corridor adjacent to gymnasium.

HVAC:
- spaces to be air-conditioned.
- simple over-ride controls to operate after hours.
- equipment should not contribute distracting system noise.
- system should handle a crowd of approximately 300 people.

Environment:

Sound:
- ceiling and wall materials should control sound reverberations

Room Color:
- original Tudor style beams should be accented.
- space should be cheerful and bright.

Floor:
- maple floor should be maintained if possible.
- floor striping should coordinate with overall room color scheme.

Equipment:

If the gymnasium is dedicated to educational use(as opposed to community use) it is the intention that the space would be outfitted with age appropriate equipment.

- climbing wall.
- perimeter track for scooters and foot races.
- landing net to be combined with the climbing wall.
- rings and suspended ladder.
- mats to cover a large area of the floor.
- basketball goals
- volleyball standards
- 200 chairs and 4 chair carts.
- scorers table and equipment.

Storage:

- provide industrial shelving for balls, scooters, etc.
- ceiling height should allow vertical storage of volleyball net standards.
- area for chair storage should allow for approximately four(4) mobile chair carts each holding 50 chairs. double doors should be provided for ease of chair cart entry/exit.

Space Furnishings:

- wall padding in appropriate locations.
- new curtains for stage.
- provision for chalkboard.

Other Requirements:

- all wall attachments should be recessed or padded.

Relationships to Other Spaces:

- sound isolated from "quiet" teaching areas.
- outside entrance for after hours and special program use.
- adjacent to cafeteria/kitchen in "public zone" of building for receptions, etc.

8.6 Little Theater/AV Production:

Philosophy/Objectives:

Students will have an opportunity to create original sound and visual tapes, to originate live drama, music and dance, to record material originating from other classrooms and to create experimental dramatic effects. This space will allow verbal/linguistic, visual/spatial, bodily/kinesthetic, musical and interpersonal learners(five of Howard Gardner's eight intelligences) a way to interact with each other in a creative setting.

The objectives include:
- to provide opportunities for students to express themselves.
- to enable students to apply basic skills as they develop problem-solving, creative communications, theater, music, and graphic arts proficiencies.
- to help students develop a working knowledge of electronic components and processes.
- to enable students to plan and execute visual and sound media.

Spatial Requirements:

Space	No.	Size
Theater	1	1,600 s.f.
Storage	1	400 s.f.

Educational Activities:

- Theater should accommodate a group of students who will perform theory learned in classroom in realistic practical applications.

Community Use:

- Theater could be made available to outside groups.

Systems:

Electrical:
- single power switch for equipment.
- sufficient duplex circuits for mobile lighting and other equipment.
- surge and voltage protected circuits.
- wiring should be covered but accessible.

Lighting:
- Space should not have windows
- general lighting for set-ups, etc.
- establish electrical and structural grid for theatrical lighting that is very flexible.

Communication:
- telephone
- data network connections
- sound system
- cable connection for TV monitors.

HVAC:
- provide humidity control
- adequate ventilation for 60 people
- equipment noise and air noise should be minimized - silent.
- temperature controlled by teacher.

Equipment:

- modular risers/platforms
- stools
- audience chairs
- TV cameras
- portable spot lights
- rehearsalmirror
- computer

Environment:

Sound:
- sound-proofed room
- walls - STC rating of 54

Walls:
- painted black or dark gray

Ceiling:
- black with acoustical properties

Floor:
- resilient sports type floor - suitable for dancing, rapid movement and jumping.

Storage:

- chairs, stage platforms.
- Scenery and props.

Relationships to Other Spaces:

- adjacent to library/media center
- adjacent to AV Storage, AV Production.

9.0 Auxiliary Areas / Facilities

9.1 Administration / Guidance:

General Statement:

Communications concerning the total operations of the elementary school either originates in or flows through the administrative offices. This critical area needs to be accessible by students, staff and parents.

Spatial Requirements:

Space	No.	Size
Recep/Waiting	1	350 s.f.
Sec Area	1	300 s.f.
Principal	1	200 s.f.
Conference	1	250 s.f.
Guidance	1	150 s.f.
Guid. Conf.	1	150 s.f.
File Room	1	150 s.f.
Work/Mail	1	200 s.f.
Restroom	1	40 s.f.
Coat Closet	1	8 s.f.
Supply Storage	1	150 s.f.

Systems:

Electrical:
- adequate receptacles in each space
- dedicated circuits for copier and communications equipment
- fire alarm control panel in office area.

Lighting:
- non-glare, full spectrum, general purpose lighting.
- special accent lighting in reception area and large conference room.

Communications:
- telephone in each area including visitor waiting area.
- computer at all work stations tied to data network.
- headend for intercom system.
- clock controller.
- Emergency call button at the school secretary's work station and in the principal's office. This button is connected to a security service

Plumbing:
- handicapped lavatory and water closet in restroom.

HVAC:
- operable windows.
- system thermostat located in common area.

Environment:

Ceilings:
- acoustical tile

Walls:
- neutral color
- accents in reception area and conference rooms.

Floors:
- carpet

Sound:
- acoustical separation between offices and conference rooms.

Storage:

- general office storage, provide industrial metal shelves.
- secure files
- storage for consumable classroom materials and supplies.

Furnishings:

- counters in general office and work room.
- mail boxes.
- small counter in conference room for coffee, etc.
- display areas in reception area and conference rooms

Equipment:

- filing cabinets in all office areas and file room
- conference tables and chairs in conference rooms.
- comfortable chairs in reception area.
- desks and chairs for principal and staff.
- computers on each desk.
- photocopier
- fax
- laser printer

Space Relationships:

- adjacent to main entrance for visual contact
- adjacent to health area
- multiple entrances to office area(means of escape).

9.2 PTO/Safe Arrival Room:

General Statement:

A room is needed to support the many volunteers who contribute to the daily operation of the school. This would be a place where the PTO can copy and prepare materials, safe arrival volunteers can make phone calls while working with the school secretary, coats and personal effects can be stored while in the building and where materials and equipment can be stored.

Spatial Requirements:

Space	No.	Size
Workroom	1	200 s.f.

Systems:

(see 9.1 above, plumbing is not required)

Environment:

(see 9.1 above)

Storage:

- continuous shallow storage closets along one wall.

Furnishings:

- work counter continuous along one wall.
- 4'x8' tack board.

Furniture/Equipment:

- desk and chair
- copier

Spatial Relationships:

- close to main public building entrance.
- adjacent to administrative offices.

9.3 Health

General Statement:

Examination, treatment and rest areas are necessary for the provision of school health services to students. Height, weight, vision and hearing checks and periodic physical examinations are mandated by State regulations. First aid treatment is a continuous service.

Spatial Requirements:

Space	No.	Size
Exam Room	1	120 s.f.
Cot Room	1	120 s.f.
Waiting/Office	1	250 s.f.
Bathroom/Shower	1	100 s.f.
Storage	1	60 s.f.

Systems:

Electrical:
- many electrical receptacles in all areas.
- Receptacle in storage closet for small chest freezer.

Lighting:
- non-glare general purpose lighting throughout.
- auxiliary low level lighting in cot room controlled by a separate switch.

Communications:
- telephone w/ outside line
- data network connection
- intercom
- Cable TV jacks in principal's office and main conference room.

Plumbing:
- sink in exam room
- sink in waiting/nurse area
- full handicapped equipped bathroom including shower.

HVAC:
- operable windows
- thermostat control in waiting/nurse's office area.

Environment:

Privacy:

- provide curtain and track to divide cot room.

Sound:
- wall surfaces and ceiling should be acoustically treated to reduce noise.
- exam room should have acoustical treatment for private conversations.

Floors:
- vinyl tile throughout.

Surfaces:
- easily cleaned.

Storage:

- lockable closet for supplies and health teaching aids.
- lockable cabinet for storage of medications.
- approximately 8' of base and wall cabinets in waiting/nurse area.
- approximately 4' of base cabinet for sink in exam room.

Furnishings:

- examination/treatment table
- 2 - examination stools
- 2 - cots
- bowl stand for cot room
- 2 - desks and chairs
- 3 - patient waiting chairs
- floor balance scale
- refrigerator
- small chest freezer
- coat hooks on all doors except suite entrance door.

Spatial Relationships:

- locate health suite close to administrative offices.
- access to outside exit and parking area for emergency vehicles.

9.4 Faculty Dining/Work Room:

General Statement:

The faculty dining area will be used by teachers and staff for lunch, faculty meetings and a place to interact with colleagues. The work room, to be located adjacent to the dining area, is the location where a central copier, paper cutter, laminator and other tools are located necessary to the teacher's classroom preparation.

Spatial Requirements:

Space	No.	Size
Dining Area (to include kitchenette)	1	600 s.f.
Vending Area	1	25 s.f.
Work Room	1	300 s.f.
Restrooms	2	50 s.f.

Systems:

Electric:
- dedicated receptacle for copier.
- dedicated receptacle for refrigerator.
- dedicated circuits for two vending machines.
- many receptacles around work room and dining area.

Lighting:
- operable windows in the dining area.
- general purpose, low glare, lighting.

Communications:
- telephone in dining and work rooms
- data jacks in dining and work rooms.
- cable TV jack in dining area.

Plumbing:
- large 2-compartment sink in kitchenette(part of dining area)
- icemaker connection for refrigerator.
- handicapped sink and water closet water closet in each restroom.
- hot and cold water.

HVAC:
- thermostat to be located to be most sensitive to dining area.
- temperature will be controlled centrally.

Environment:

Floor:
- carpet in dining area.
- provide vinyl tile at kitchenette, workroom and restrooms.

Sound:

- acoustical control in dining area.

Furniture and Equipment:

Dining:
- 4 - 60" round tables, 24 chairs.
- 1 - love seat
- 2 - lounge chairs
- refrigerator w/ice maker
- microwave oven
- coffee maker

Work Room:
- production copier
- large paper cutter
- laminator

Furnishings:

- upper and lower cabinets in work room.
- upper and lower cabinets in kitchenette.
- hooks on restroom doors.
- 4' x 16' bulletin board in dining area.
- 4' x 8' bulletin board in work room.
- As much counter space as possible in workroom.

Spatial Relationships:

These spaces should be close to the food preparation area and cafeteria.

9.5 Food Service:

General Requirements:

The School District uses a satellite food preparation and dish washing system. Food is prepared at a central kitchen and transported to individual schools.

A hot lunches and cold lunches will be served. Students will enter a hot or cold lunch serving line, pick up their food and exit past the cashier. Condiments, napkins, silverware, etc., will be located in the cafeteria area.

Note: The District's food service vendor has not been interviewed for this document. The Architect and his food service consultant should meet with the vendor.

Spatial Requirements:

Space	No.	Size
Kitchen	1	1,000 s.f.
Office	1	120 s.f.
Dish Washing*	1	200 s.f.
Storage*	1	200 s.f.
Restroom	1	40 s.f.

(*) would be part of program if free standing kitchen is determined required.

Systems:

Electrical:
- kitchen equipment to be served by ceiling drops.
- surge-protected circuits for computer and cash registers.

Lighting:
- moisture resistant fixtures in future dish washing area and kitchen.

Communications:
- telephone in office
- data jack in office

HVAC:
- separately zoned from cafeteria.

Plumbing:
- floor drains in kitchen and future dish washing area.
- plumbing coordinated with kitchen requirements and restroom. grease trap is required by municipal government.

Environment:

Floor:
- quarry tile in kitchen and future dish washing area.
- vinyl tile in office.

Walls:
- scrubable.

Ceiling:
- scrubable and with noise reduction acoustic al properties.

Furniture and Equipment:

- desk and chair in office
- kitchen equipment similar to Neff
- cash register.
- 4-lockers to be located in restroom.

Space Furnishings:

- 4'x4' bulletin board in office.

Spatial Relationships:

- adjacent to cafeteria and teacher dining area.
- office adjacent it kitchen.
- restroom adjacent to kitchen

9.6 Cafeteria:

General Statement:

The dining area should be a bright and pleasant space. The shape and outfitting of the cafeteria space should allow for great flexibility of use. The cafeteria should seat one half of the student body.

Spatial Requirements:

Space	No.	Size
Cafeteria	1	2,400 s.f.
Storage	1	160 s.f.
(table and chair storage)		

Activities:

The cafeteria must serve at least four functions: 1) as a large group instruction area, 2) as a place for before and after school activities, 3) as a location for community groups to meet such as Girl Scouts and Boy Scouts and 4) dining.

Systems:

Electrical:
- sufficient duplex receptacles for equipment to be located along all dining area walls.
- floor receptacles for projection equipment located for use of the projection screen.

Lighting:
- the ability for students to look outside and the space should have natural light.
- sufficient non-glare artificial lighting such that the cafeteria could be used as a classroom space.

Communications:
- telephone for staff use.
- intercom speakers.
- data network jacks for presentations.
- cable TV jacks for presentations.
- sound system w/microphone jacks.

HVAC:
- HVAC system should be designed for low ambient noise levels.

Plumbing:
- provide drinking fountain.

Environment:

Color:
- bright and cheerful.

Sound:
- ceiling and walls should be acoustically treated for maximum sound control.

Floor:
- vinyl tile for ease of maintenance.

Furniture and Equipment:

- round cafeteria tables seating 6-8 students with attached seats.
- 100 folding chairs(to match gymnasium chairs).
- 2-chair carts - storage designed to accommodate chair carts.

Space Furnishings:

- projection screen.
- many tackable surfaces.
- 4'x8' marker board in presentation area(could be used to post menu notices).
- piano for musical rehearsals.
- coat hooks.

Spatial Relationships:

- ideally this space would be close to gymnasium and other public building spaces.
- should have direct access to outside playground.
- access to restrooms.

9.7 Building Services:

General Statement:

Custodial and maintenance services are necessary to keep the physical plant operational and in good condition. The custodians are an integral part of the building staff.

Spatial Requirements:

Space	No.	Size
loading dock	1	15'x35'
receiving	1	700 s.f.
custodian's office	1	120 s.f.
custodial closets	3	80 s.f.
building storage	1	500 s.f.
outside storage	1	100 s.f.

Custodial / Maintenance Activities:

The custodial staff unlocks the building, supports routine and special building events and schedules during school hours and cleans the building during a second shift beginning at approximately 3:00 PM. All maintenance except minor repairs are accomplished by central Plant Services personnel.

Systems:

Electrical:
- sufficient duplex receptacles for equipment in central work areas and storage areas.
- outlets in corridors for buffers and other cleaning equipment.
- duplex outlet in each custodial closet.

Lighting:
- efficient general purpose lighting.

Communications:
- telephone in office.
- data jack in office.
- intercom speakers in receiving area, office, and larger mechanical spaces. provide for a custodial "all-call."

Plumbing:
- provide can wash in receiving area or adjacent to cafeteria.
- slop sink in each custodial closet.
- hose bib on the loading dock.

HVAC:
- no special requirements.

Environment:

Floors:
- sealed concrete in receiving and storage areas.
- vinyl tile in office and custodial closets.

Fixtures and Equipment:

- desk and desk chair in custodian's office.
- 4 - lockers in custodian's office.
- industrial 2' deep industrial shelving in receiving area for building supplies.
- multiple mop hangers in each custodial closet
- 2' deep industrial shelving in each storage area including outside storage.

Furnishings:

- 4'x4' tackboard in custodian's office.

Spatial Relationships:

- custodial closet centrally located on each level.
- receiving located adjacent to kitchen to ease food handling.
- custodial office adjacent to receiving.
- storage to be convenient to elevator.

9.8 Restrooms:

General Statement:

Separate restroom facilities should be provided for students and staff. Student restrooms should be designed for easy staff monitoring. All restrooms should be designed for hygiene and ease of cleaning. All restrooms will be ADA compliant.

Spatial Requirements:

Numbers of restrooms, their location and size should be determined by code and convenience.

Monitoring:

Student restrooms should be designed with visual privacy. Teachers should be able to hear students, thus a preference for no corridor doors.

Systems:

Electrical:

- Ground fault electrical duplex receptacle at mirror in each staff restroom.

Lighting:
- general purpose illumination.
- light switched by a motion detector.

Plumbing:
- automatically flushing water closets and urinals.
- floor drains in student restrooms.

HVAC:
- per code.

Environment:

Floors:
- ceramic tile

Walls:
- ceramic tile, if cost becomes a factor, ceramic tile on wet walls.

Restroom Accessories:

- mirrors
- soap dispenser
- paper towel dispensers(School District Standard)
- trash dispenser
- sanitary napkin dispenser in women's public restrooms.

Spatial Relationships:

- teachers restrooms should be located in close proximity to student restrooms.
- public areas of the building such as the gymnasium, media center, cafeteria, etc., should have adjacent restrooms such that if the classroom areas are closed, restroom facilities are available after hours.
- travel distances from classrooms to restrooms should be short.

10.0 Miscellaneous Concerns

10.1 Integrated Systems:

Neff used an integrated systems approach regarding clock controller, intercom, telephone, cable TV and data network. The District would again like to pursue this approach.

Clocks:

- clock face to appear on TV monitor.
- provide dedicated clocks in spaces without TV monitor such as gymnasium, cafeteria, etc.
- clock controller to be in admin. office head end.

Bells:

- none required.

Intercommunications:

- integrated with telephone system.
- various zones which would allow calling out individual classrooms.
- outside zone for playground.
- "talk-back" is not required on speaker system.
- system controlled by administrative office.

Telephones:

- each classroom will be equipped with a telephone that allows teachers to call parents.
- a voice mail system is desired.

Fire Alarms:

- per code requirements.

Security Systems:

- not desired at this time, however, future installation should be anticipated.

10.2 Waste Management:

Dumpsters:

- two(2) required, one for recyclable materials and one for general trash. Dumpsters are emptied once a week.

10.3 Acoustics:

The acoustical properties of the school are felt to be an important ingredient in the overall creation of a positive educational environment.

Areas of special concern are as follows:

- separation of classroom from classroom.
- isolation of the music suite from the rest of the school.
- proper acoustical treatment of the gymnasium.
- separation of the gymnasium from the rest of the building.
- proper acoustical treatment of the cafeteria.
- separation of the cafeteria from the rest of the building.
- proper acoustical treatment of the library/media center.
- proper acoustical treatment of the music suite including separation of the practice room from the music room and separation of the music suite from the rest of the building.
- proper treatment of the AV production area and the little theater including internal treatment and isolation from the rest of the building.
- mechanical equipment noise levels should meet ASHRAE standards for ambient noise.

10.4 Illumination:

Recent research indicates that full spectrum lighting is an important environmental health attribute. The design of the Brecht lighting system should evaluate full spectrum lighting for project feasibility.

From a maintenance perspective, the design should minimize the number of different types of lamps used on the project.

10.5 Heating, Ventilating and Air Conditioning:

The District has been pleased with the Neff geothermal heat pump system for the following reasons:

- first costs.
- energy efficiency/costs.
- no oil tank.
- no cooling tower.
- user control.

The District would expect that various options would be explored and the HVAC system most beneficial to the users of the building and the District would be selected for implementation.

Ventilation requirements will be governed by ASHRAE standard 62-1989 for fresh air.

10.6 Visual Environment.

The intention is to maintain much of the original character of the 1928 building. From an educational view, the building should offer a pleasant and cheerful environment for education. Colors used should be neutrals and pastels, not primary colors.

10.7 Signage:

As a shift from Neff and Reidenbaugh, the classroom room numbers can be part of a decorative panel painted directly on the wall above or adjacent to the door.

ADA required signage should be minimized as much as possible but still attractive.

Outdoor signage should conform to the Manheim Township School District signage master plan.

11.0 Site Issues:

Philosophy:

From an educational view, the site should be an extension of the building. The playgrounds/fields should offer many different types of recreational and physical education opportunities. Natural areas and garden areas should be provided to support the "naturalist learners." Visitors should sense that hey are entering a learning environment.

Separation of cars and pedestrian walkways, separation of service traffic from play areas, adequate parking for visitors and teachers and

efficient bus circulation and loading/unloading are very important.

11.1 Vehicular Circulation and Parking:

- Main Entrance/Exit - there is a main entrance/exit off Lititz Pike. A secondary exit has been established south through an adjacent neighborhood. Traffic levels must not increase through the adjacent neighborhood. Ways to encourage more traffic to exit onto Lititz Pike should be investigated. Safer ingress and egress from Lititz Pike should be investigated.
- It may be an advantage if bus and car traffic can be better separated.
- Service vehicle routing must be considered.
- provide clearly defined visitor and faculty parking areas. Approximately 20 spaces should be provided for visitors and 45 spaces for staff.
- overflow parking for special events should be accommodated by the ability to allow parking on paved playground areas.

11.2 Pedestrian Circulation:

- The District maintains a small path through the adjacent neighborhood south to Keller Avenue. Only about six children use this path. Path/sidewalk connections to the adjacent neighborhood should be investigated, however, most students are bussed.
- A sidewalk system is necessary connecting parking areas, playgrounds and building entrances.

11.3 Outdoor Play Areas:

- hard surface - play areas for basketball, kickball, hopscotch, etc.
- grass surface - area for field sports including softball, foot races, etc.
- play equipment - two areas should be provided, one for kindergarten students and one for older students.

11.4 Outdoor Laboratory/Classroom:

- area where a garden or small pond can be installed.
- provide water and electrical receptacle.
- locate in area which will not interfere with normal grounds maintenance.
- locate in a quite area where teaching can take place with few distractions.

11.5 Outdoor Lighting:

- provide a low level of lighting in parking lot.
- provide security lighting strategically around building. provide light for sidewalks leading to building entrances.

11.6 Dumpster Requirements and Location:

- provide a concrete pad with drain at the loading dock.
- separate dumpster (service) function from playground.
- two dumpsters are required, one for general trash and one for recyclables.

11.7 Landscape Materials:

The landscape design for Brecht should compliment the existing building. The scheme should reinforce existing plant materials and should be low maintenance(the District employs three grounds keepers for the entire School District grounds).

Appendices:

A. Multipal Intelligence Theory Simplified

B. Teacher's (Sue Zeager) Typical Day

C. Memo – Brecht Wireless Possibilities

D. Art Education Interview

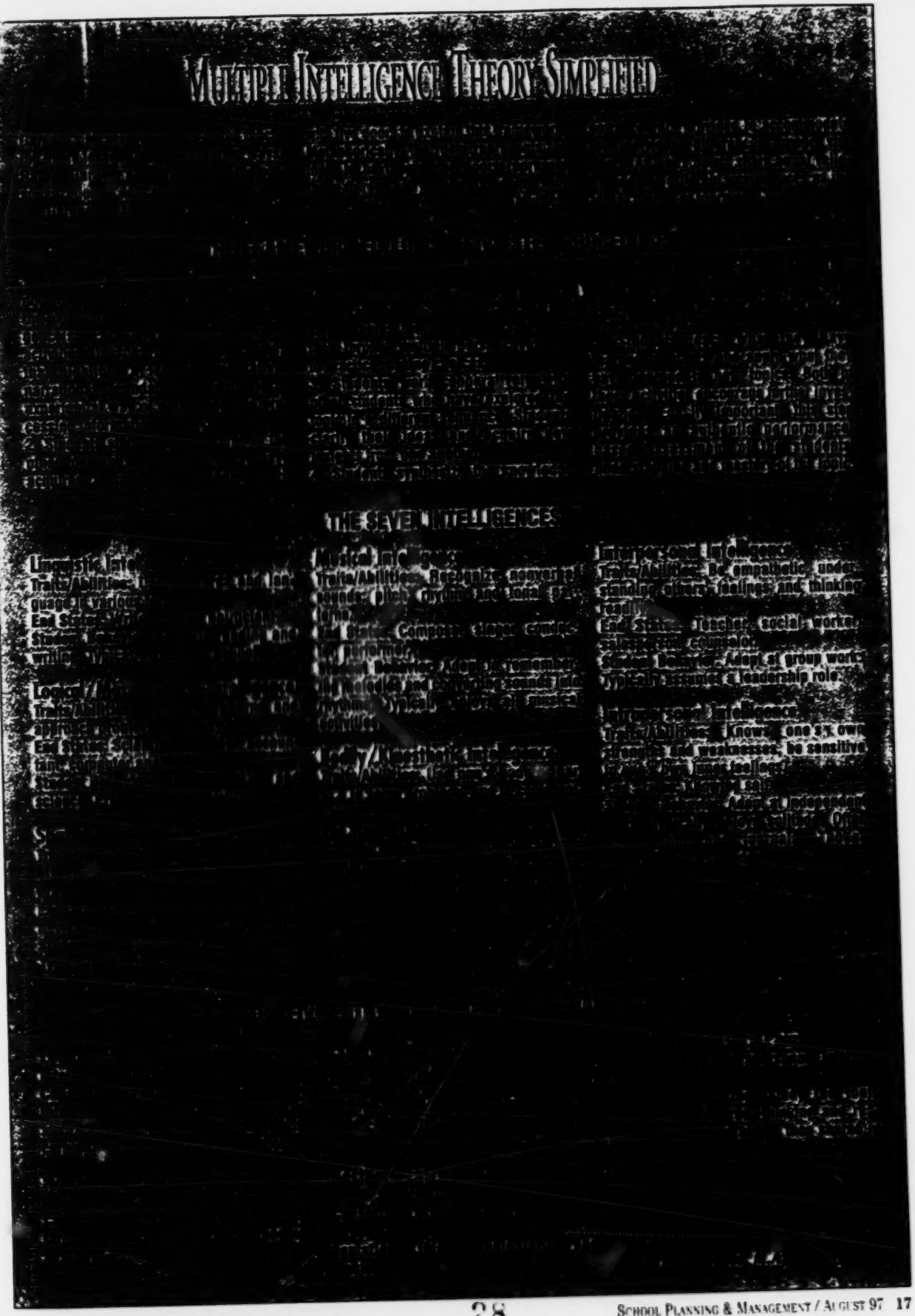
E. Music Education Interview

F. Physical Education Interview

G. Post Occupancy Survey Results – Neff, Nitrauer and Reidenbaugh

Multiple Intelligence Theory Simplified

The Seven Intelligences



BEST COPY AVAILABLE

A-1

KEY POINTS IN MI THEORY

Beyond the descriptions of the seven intelligences and theoretical underpinnings, certain points of the model are important to remember:

1. Each person possesses all seven intelligences. MI theory is not a "type theory" for determining the *one* intelligence that fits. It is a theory of cognitive functioning, and it proposes that each person has capacities in all seven intelligences. Of course, the seven intelligences function together in ways unique to each person.

2. Most people can develop each intelligence to an adequate level of competency. Although an individual may bewail his deficiencies in a given area and consider his problems innate and intractable, Gardner suggests that virtually everyone has the capacity to develop all intelligences to a reasonably high level of performance if given the proper encouragement, enrichment, and instruction.

3. Intelligences usually work together in complex ways. Gardner points out that each intelligence as described throughout this booklet is actually a "fiction"; that is, no intelligence exists by itself in life (except perhaps in very rare instances in savants and brain-injured individuals). Intelligences are always acting together.

4. There are many ways to be intelligent within each category. There is no standard set of attributes that one must have to be considered intelligent in a specific area. Consequently, a person may not be able to read, yet be highly linguistic because he can tell a terrific story or has a large oral vocabulary. MI Theory emphasizes the rich diversity of ways in which people show their gifts *within* intelligences as well as *between* intelligences.

THE EXISTENCE OF OTHER INTELLIGENCES

Howard Gardner points outs that his model of seven intelligences is a tentative formulation; after further research and investigation, some of the intelligences on his list may not meet certain of the eight criteria (*describes in the book Multiple Intelligences in the Classroom, Copyright © 1994 by the Association for Supervision and Curriculum Development, Chapter 1, pages 2-10*), and therefore no longer qualify as intelligences. On the other hand, we may identify *new* intelligences that do meet the various tests. Other intelligences that have been proposed include:

- spirituality
- moral sensibility
- sexuality
- humor
- intuition
- creativity
- culinary (cooking) ability
- olfactory perception (sense of smell)
- an ability to synthesize the other intelligences

It remains to be seen, however, whether these proposed intelligences can, in fact, meet each of the eight tests. For the purpose of staying focused for this workshop, we will deal with the seven intelligence that have been put to the test and are the seven suggested intelligences to implement and learn.

SEVEN KINDS OF LEARNING STYLES

Children who are strongly:	THINK	LOVE	NEED
Linguistic	in words	reading, writing, telling stories, playing word games, etc.	books, tapes, writing tools, paper, diaries, dialogue, discussion, debate, etc.
Logical-Mathematical	by reasoning	experimenting, questioning, figuring out logical puzzles, calculating, etc.	things to explore and think about, science materials, manipulatives, trips to the planetarium and science museum, etc.
Spatial	in images and pictures	designing, drawing, visualizing, doodling, etc.	art, LEGOs, video, movies, slides, imagination games, mazes, puzzles, illustrated books, trips to art museums, etc.
Bodily-Kinesthetic	through somatic sensations	dancing, running, jumping, building, touching, gesturing, etc.	role play, drama, movement things to build, sports and physical games, tactile experiences, hands-on learning, etc.
Musical	via rhythms and melodies	singing, whistling, humming, tapping feet and hands, listening, etc.	sing-along time, trips to concerts, music playing at home and school, musical instruments, etc.
Interpersonal	by bouncing ideas off other people	leading, organizing, relating, manipulating, mediating, partying, etc.	friends, group games, social gatherings, community events, clubs, mentors/ apprenticeships, etc.
Intrapersonal	deeply inside of themselves	setting goals, meditating, dreaming, being quiet, planning	secret places, time alone, self-paced projects, choices, etc.

A-4

SUMMARY OF THE "SEVEN WAYS OF TEACHING"

Intelligence	Teaching Activities (examples)	Teaching Materials (examples)	Instructional Strategies
Linguistic	lectures, discussions, word games, story-telling, choral reading, journal writing, etc.	books, tape recorders, typewriters, stamp sets, books on tape, etc.	read about it, write about it, talk about it, listen to it
Logical-Mathematical	brain teasers, problem solving, science experiments, mental calculation, number games, critical thinking, etc.	calculators, math manipulatives, science equipment, math games, etc.	quantify it, think critically about it, conceptualize it
Spatial	visual presentations, art, activities, imagination games, mind-mapping, metaphor, visualization, etc.	graphs, maps, video, LEGO sets, art materials, optical illusions, cameras, picture library, etc.	see it, draw it, visualize it, color it, mind-map it
Bodily-Kinesthetic	hands-on learning, drama, dance, sports that teach, tactile activities, relaxation exercises, etc.	building tools, clay, sports equipment, manipulatives, tactile learning resources, etc.	build it, act it out, touch it, get a "gut feeling" of it, dance it
Musical	superlearning, rapping, songs that teach	tape recorder, tape collection, musical instruments	sing it, rap it, listen to it
Interpersonal	cooperative learning, peer tutoring, community involvement, social gatherings, stimulations, etc.	board games, party supplies, props for role plays, etc.	teach it collaborate on it, interact with respect to it
Intrapersonal	individualized instruction, independent study, options in course of study, self-esteem building, etc.	self-checking materials, journals, materials for projects, etc.	connect it to your personal life, make choices with regard to it

A-5

Learning Opportunities For The Eight Intel

Verbal/Linguistic Learners:
Learns best by activities that involve reading, writing and speaking.

- authoring books
- mock trials
- teaching others
- storytelling
- interviews
- journals, diaries
- creative writing
- humor, jokes
- making dictionaries
- classroom discussions
- vocabulary games
- debating
- poetry
- chorale reading
- newspaper publishing
- rap and rhyming

Logical/Mathematical Learners:
Learns through looking for patterns, step-by-step procedures, working with numbers, experimenting, and asking questions.

- computation games
- statistics
- graphing info
- codes
- math in nature
- classifying, categorizing
- making calendars
- conducting surveys
- sequencing events
- probability
- flow charts
- computers, calculators
- creating games
- science in daily life
- brain teasers
- puzzles, kits
- creating recipes
- research projects
- geometrical building
- creating programs
- outlining

Visual/Spatial Learners:
Learns with images, pictures, diagrams, and a wide range of visual media.

- illustrating concepts
- murals, time lines
- observations
- using manipulatives
- making cartoons
- visualization
- creating models
- making a film, video
- designing posters
- creating costumes
- designing 3D structures
- note taking with symbols
- guided imagery
- reading blueprints
- map making
- graphs, flow charts
- color coded work
- mazes, chess
- sculpting, painting
- clustering, mapping
- inventing visual words

Bodily/Kinesthetic Learners:
Learns best through activities that allow them to move, touch, do, and " become."

- role playing
- SIMULATIONS
- action stories
- giving a demonstration
- puppet show or skit
- competitive sports
- scavenger hunts
- manipulatives
- relaxation activities
- making/playing games
- "gesturing" sounds,symbols
- miming, dancing
- art activities
- physical exercise
- sculpting
- conducting experiments
- computers, typewriters
- designing a product

A-6

Learning Opportunities For The Eight Intelligences

Musical Learners:
Learns through activities which involve music, rhythm, melody, and sounds.

- writing musical lyrics
- singing
- music in nature
- creating theme tapes
- music from different cultures
- musical games
- studying musicians
- reading musical lyrics
- making instruments
- creating a musical
- drawing or writing to music
- clapping sounds, facts
- communicating with codes
- adding verses to songs
- cinquains, haiku
- playing instruments
- rhythmic patterns
- learning facts from jingles
- analyzing music
- facts through rapping

Interpersonal Learners:
Learns by communicating and working cooperatively with others.

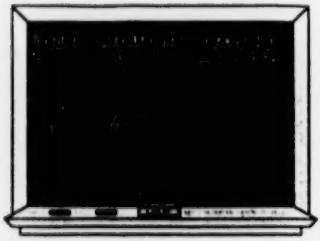
- interviewing
- role-playing, acting
- conflict resolution
- reenacting lives
- "human graph" for issues
- group research projects
- global problem solving
- group problem solving
- teaching others
- peer tutoring
- classroom discussions
- group story writing
- using different perspectives
- community service work
- jigsawing info
- fund raising activities
- create a celebration
- conducting a meeting
- character analysis
- cross-age work

Intrapersonal Learners:
Learns by self-directed, thoughtful, and independent learning experiences.

- journals, diaries
- imagery, dreams
- self portraits
- independent contracts
- personal goal-setting
- identifying own traits, styles
- family trees
- self-assessments
- creative writing
- personal time lines
- writing autobiographies
- self-esteem activities
- "if I could be..." writing
- apprenticeships
- values
- studying philosophies
- coat of arms
- comparing self to others

Naturalist Learners:
Learns best through field studies, collecting, observing, and learning experiences that relate to the natural world.

- growing things....gardens
- sensory explorations..... touching,smelling, listening
- field studies/trips..outdoors
- grouping, classifying natural objects.... leaves, trees
- recycling projects
- identifying sounds in nature
- building a nature trail
- collecting... leaves, feathers
- construct nature mobiles
- construct bird boxes...feeders
- predator/prey games
- scavenger hunts for nature items
- invent ideal habitats
- draw/sketch natural observations



M.J. Brecht School

1. Number of students - 25

2. Teacher's aide / volunteers in classroom
   primary 40% of time; intermediate 25% of time
   (varies by teacher)

3. Normal school day - Grade 2
   8-8:45 Teacher prep time
   (copy materials, gather items for science, math, health, etc. lessons, make phone calls)
   8:45 - 9 Students arrive
   (mark lunch count, hang up belongings, select books to read for the day, do room jobs, play math games, check science experiments, return and choose new lending library books, check mail boxes)
   9-9:10 Opening exercises
   9:15-10:30 Language Arts (Reading)
   9:15-9:30 Introduction
   9:30-9:50 Whole class instruction- may use overhead, blackboard
   9:50-10:10 Student work (indiv., paired, small group workbook work, students read with learning partners)

B-1

10-12:15 Room Helper - works with indiv. or small groups of children - spelling, math facts, tape oral reading, small book groups
10:10-10:25 Whole group check of progress or teacher holds indiv. conferences with students as others read or teacher meets sm., flexible groups
10:25-10:30 Students snack, teacher reads aloud
Bathroom and drink break
Recess 10:30-10:45, bathroom and drinks again
10:45-11 Spelling - whole group activity
11-11:15 Phonics - students use small letter cards to make words - whole group
11:15-11:30 Daily Oral Language - editing - can be a whole group, sm. group, or indiv. activity
11:30-12:15 Parent volunteer - helps children with ideas for writing
11:30-12:15 Writing Workshop - students write stories, much room movement getting supplies, conferencing with friends. Teacher conferences with indiv. students, helps edit, may give a small group mini-lesson.
11:30-12 Several students go to reading specialist
12:15 Bathroom break, wash hands, prepare for lunch
12:20-12:45 Lunch and recess(on bad weather days, this is in the room)
12:45-1 Bathroom, drinks, story (use story corner)
1-2 Math
Assemble manipulatives for the group
Lesson
Use blocks, counters, number lines, etc. to problem solve.
Use of board, overhead, some videos.
Put away math tools.
Some students work indep. in an area of the room.
2-2:45 Health, Science, Social Studies

Group work, stations, many manipulatives, project displays, use videos, filmstrips, some films, computer, simulations, experiments.May be a whole class lesson (dissect eye) or large group - make marshmallow and candy "eyes", name parts
2:45-3:15 Library class or gym or music
3:15 Room jobs - prepare to go home
3:25 - Bldg. announcements, buses called

3:30 Teacher has a cup of tea, calls parents, arranges materials for next day. . .

4. Classroom use

Groupings are varied, depending on projects. Large group instruction, small group, students work in pairs and individual conferences. (Primary grades - large group instruction in small amounts at a time. Activities change frequently.)

Arrangements vary according to the task, sometimes according to the behavior of the students, and depend on teacher style. (desks or tables) Seating arrangements can change several times a day.

Activities occurring on the floor - graphing for math, story time, indoor recess games, larger project work where there is not enough table space to work on poster board for example.

Other thoughts . . .

Only one classroom currently has a white board

Magnetic chalkboards are used to:
post schedules for the day

B-2

display data and charts
group children for activities (sm. name tags with magnets can be moved to assign groups)

Bulletin boards are used to:
highlight calendar, school, seasonal activities
display student work
display visual reminders for children
ex. hundreds chart in math
steps in the writing process
flow charts - how to do research
In elem. grades, this info. needs to be visible and remain so for the children to refer to daily.

Coat closet - students store lunches, book bags, boots, umbrellas, sports equip., sharing, snacks, hats, gloves In rooms with no desks (just tables), this is their main area to store their "stuff".

Primary teachers have extensive trade book collections in their rooms. Books are often divided into categories. Children need constant access.

Counter space - display projects, learning centers (listening, math), writing center (supplies -paper, pencils, edit baskets) science - experiments to be observed over time, place for teacher to assemble supplies for a week's lessons, stacks of books shared with another teacher (ex, writing books) or not used daily by children (ex. folders for projects)

CURRENT BRECHT ROOM SIZES

Note: Room sizes don't include coat closets. These measure 2' 3" deep by 11' 10" long.

Grade 1 (Room 113)
37' long by 21' 8" wide
777 sq. ft. +

Grade 2 (Room 215)
37' long by 22' 4" wide
814 sq. ft. +

Grade 4 (Room 206)
29' long by 21' 5" wide
620 sq. ft. +

Grade 5 (Rooms 209 and 211)
29' 8" long by 21' 4" wide
620 sq. ft. +

B-3

Manheim Township
School District

Memo

To: John Riegel

From: Dave Mancuso

CC: Joe Kurjiaka, Dave Anstrand

Date: 9/14/98

Re: Brecht Wireless Possibilities

Overview

We're investigating the possibility of providing wireless (radio frequency) LAN services at Brecht, initially a wireless computer lab. This lab would be comprised of approximately 30 laptop computers. The laptops would have wireless network cards, allowing them to connect to a wireless network hub called an "access point." An access point hub can typically handle 15-50 computers, and can range hundreds (or thousands) of feet. Thus one access point could potentially handle the entire lab, no matter where the computers are taken to in the building (or even outside on the Brecht campus).

The computers would be stored in six to eight carts (four to six computers in each cart). Thus the carts could also be used as minilabs. If a teacher only needs a few computers for a lesson, he or she can just take one of the carts. If the teacher needs a full lab, he or she can roll all the carts down to the classroom. This gives us a great deal of flexibility with our resources, and makes a room for a regular computer lab unnecessary.

This flexibility lends itself to a wide array of educational activities. A teacher can place computers anywhere in the room to fit different activities: learning stations, group work, full class instruction, Internet lessons, or more, all without leaving the classroom. Not only do we bring technology information to our children, we bring the technology itself!

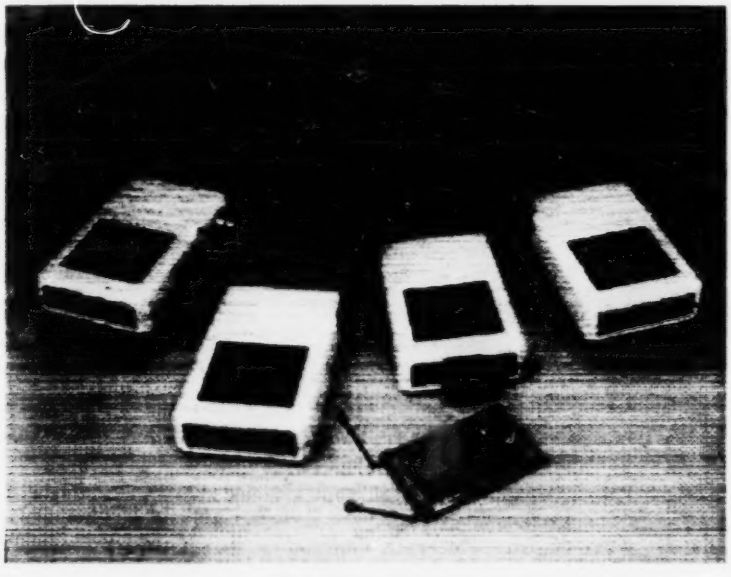
Wireless/Lab Details

The laptop computers should have good battery life, lasting up to 8 hours. We should be able to use the laptops in class after class throughout a full day of instruction without

running out of power. An extra battery for each computer may be necessary to achieve this requirement.

In order to charge the laptops while they are in storage, the computer carts should have electrical sockets for each computer and a cart plug for a wall outlet. The carts themselves should be mobile, with strong wheels or casters. They could also hold software or other materials, although the laptops themselves should hold most of the software on their hard drives. Note that there must be a good ADA-compliant elevator or other means to get the carts from floor to floor. It should be as easy as possible for the teachers to move these carts and computers to all parts of the building, and possibly out onto the grounds for outdoor activities. I have not yet located these carts, but I'm in discussion with a company in our area who may be able to custom design the units for a good price.

Each laptop's wireless network card will be a PC Card, seen in the picture foreground with two small antennae. We will buy cards with more robust antennae (they are available, but not pictured), since usage by our children may be too much for the card we see here.



Our wireless "hub", the access point, is seen here in four mildly different versions. Each access point has antennae, but also plug into the wired network so that wireless computers can get to email, Internet, servers, etc. It is possible that one access point will provide service for the entire lab, but we may have to buy several access points and put them in different parts of the building to provide overlapping coverage (these devices are similar to cellular phone tower devices). It is even possible to put an access point with each of the minilab carts. However, this requires that the classroom teacher plug it into a classroom network jack and turn on the device each time they use a cart of laptops. It will

be much simpler to put access points into a few permanent locations in Brecht, perhaps at corners of the building. They can plug into the wired network at these locations and cover the building and grounds.

Wireless technology will not relieve us of the need to wire the building. We will still need to wire the building with normal wiring, and I still recommend 6 data outlets per classroom at this time. This may change in the next year, but I don't foresee any change in this need. We can certainly investigate making the entire building completely wireless, but the cost may be prohibitive. What this project does for us strategically is to free up the classroom needed for a traditional lab. It does of course also give us a great deal more flexibility with mobile labs that can divide to any combination of minilabs at a moments notice.

Cost

At this point, exact cost estimates are not available, and in any case would change by the time we bought the final specified equipment. Final costs may be much lower, but I can't confirm this at the present time.

Item	Estimated Cost
Laptops	$1200 - $2600
Wireless network cards	$200 - $250
Access Points/Hubs	$600 - $1200
Traditional Wiring (if needed)	$2000 - $10,000

Considerations/Contingencies

- Determine how many cells (Access Points, or "hubs") we will need at Brecht.
- Determine if the entire building or just the lab is wireless.
- Make sure that the carts can navigate to all parts of the building.
- Keep track of advancements in wireless technology. 3Com, for instance, is working on a new suite of products to be unveiled over the next few months.
- Ensure that the LAN wireless solution does not interfere with the Pinnacle WAN wireless solution we've put in place this year.
- Make sure that parents and community are educated on the safety of wireless technology (this technology uses less power than a cellular car phone, for instance)

Brecht Educational Specifications:

Specialty Area: *Art* **Date:** *7-2-98*
Interview with: *Neil Dreibelbis* **Title:** *Coordinator*
Interviewed by: *David Anstrand, Bruce MacGregor and John Riegel*

General Background:

1. Will the teacher(s) be full time at Brecht?
   2 1/2 - 4 days per week
2. How many times a week will the teacher meet with student classes?
   one time for one hour
3. Will the teacher have involvement with kindergarten students?
   not currently
4. Will the teacher(s) have other responsibilities such as individual or small group lessons?
   art shows, displays - working with small student groups.
5. Will the teacher be involved in other school activities such as special programs for parents, a field day, school thematic decorations, etc.?
   yes - hall bulletin board displays, play/skit support, etc.
6. Briefly describe the grades K-5 curriculum.
   drawing, painting, print making, clay/small sculpture and crafts.

Student Instruction:

7. Describe the instructional space(s) necessary to support the curriculum.
   larger than classroom sized room with tables and stools.
8. What student furniture is required?
   sturdy tables and stools
9. How is the furniture arranged?
   various configurations to suit the subject taught
10. What equipment do students use, i.e., musical instruments, play equipment, etc.?
    pencils, brushes, brayers, glue, yarn, scissors, clay, etc.
11. Where and how should this equipment be stored?
    tools and supplies should be close to the student's work area. large items like paper should be stored in an adjacent supply room.
12. What other student materials require storage? What quantities?
    paper, clay, student portfolios.
13. What computer, audio/visual equipment is necessary?
    filmstrip projector, slide projector and electronic media.
14. Is there any special equipment used in your curriculum?
    other than normal art materials, equipment used with clay, i.e. a kiln, etc.
15. Are individual or small group instructional areas necessary?
    because of part time use, art room could be used for other classes.
16. Chalkboards, whiteboards, projection screen and tackboards?
    similar to other classrooms, more tack space and a projection screen is important.
17. Are sinks or drinking fountains desired?
    there should be a work sink in the materials storage area for materials preparation and there should be a large gang sink in the classroom for students' use(Neff has a good sink).
18. What floor material(s) do you prefer in the instructional area?
    sealed concrete would be fine - room should have a "studio" appearance.
19. What about lighting, natural and artificial?

BEST COPY AVAILABLE

lots of light, various combinations of natural and artificial light-would like some track type light for displays.

20. Special wall colors, finishes?
neutral
21. Acoustics?
try to quiet hard hard surfaces and talking.
22. (PE) Should student locker rooms be provided? Would they be used by the community?
not applicable
23. Is student coat book pack storage required?
these items will be stored in classrooms.
24. Describe any outdoor instructional area needs.
students may be taken outdoors to draw, sketch and collect items from nature. A special area is not required.

Teacher Furniture/Storage:

25. What furniture should the teacher have?
demonstration table, file cabinet, instructor's stool.
26. Files and teacher storage?
flat files for storing art and print collection. this could be in work/store room.
27. Does the PE teacher need a shower?
not applicable
28. Other teacher needs or amenities?
lockable closet or cabinet for teacher's coat, personal possessions

Aids and Parent Helpers:

29. Are aids and/or parent helpers involved in your curriculum?
not to great extent.
30. How are they involved in instruction?
assist with material preparation
31. What are their furniture needs?
several adult chairs

Other thoughts?

Would like to have examples of ancient, classical, middle ages/renaissance, 17th & 18th century and 19th & 20th century art objects displayed throughout the building and available for art classroom use.

Brecht Educational Specifications:

Specialty Area: *Music* **Date:** *6-25-98*
Interview with: *Kate Orban* **Title:** *Coordinator*
Interviewed by: *David Anstrand and John Riegel*

General Background:

1. Will the teacher(s) be full time at Brecht?
   2 1/2 days per week, could be four
2. How many times a week will the teacher meet with student classes?
   twice a week
3. Will the teacher have involvement with kindergarten students?
   twice a week - music teacher will teach in kindergarten room.
4. Will the teacher(s) have other responsibilities such as individual or small group lessons?
   yes, individual/small group music lessons - different teacher.
5. Will the teacher be involved in other school activities such as special programs for parents, a field day, school thematic decorations, etc.?
   6-7 times a year usually involving programs at Christmas, parents night, etc.
6. Briefly describe the grades K-5 curriculum.
   singing, movement, listening, instruments and reading music.

Student Instruction:

7. Describe the instructional space(s) necessary to support the curriculum.
   I feel Reidenbaugh is our most ideal facility and it meets our needs.
8. What student furniture is required?
   chairs, music stands and countertops or tables to support insturments.
9. How is the furniture arranged?
   various configurations based on activity.
10. What equipment do students use, i.e., musical instruments, play equipment, etc.?
    key boards, xylophones, percussion, recorders, etc.
11. Where and how should this equipment be stored?
    bins for some items(sticks, etc.), shelves and cabinets.
12. What other student materials require storage? What quantities?
    some books, student portfolios(one shelf per class would be ideal.
13. What computer, audio/visual equipment is necessary?
    computer, stereo music system, TV and VCR
14. Is there any special equipment used in your curriculum?
    Piano
15. Are individual or small group instructional areas necessary?
    music practice room(5-6 students plus instructor)
16. Chalkboards, whiteboards, projection screen and tackboards?
    all of the above - do not forget the music practice room.
17. Are sinks or drinking fountains desired?
    sink in classroom to wash instruments.
18. What floor material(s) do you prefer in the instructional area?
    carpet
19. What about lighting, natural and artificial?
    normal classroom lighting, would like windows and some natural light.
20. Special wall colors, finishes?
    light and airy
21. Acoustics?

E-1

high ceilings, good separation from other spaces, acoustics optimized for voice and instruments.

22. (PE) Should student locker rooms be provided? Would they be used by the community?
not applicable
23. Is student coat book pack storage required?
storage for student instruments and cases
24. Describe any outdoor instructional area needs.
would enjoy an outdoor music/teaching area.

Teacher Furniture/Storage:

25. What furniture should the teacher have?
desk, chair, book shelf, director's stand with shelf.
26. Files and teacher storage?
teacher file cabinet
27. Does the PE teacher need a shower?
not applicable
28. Other teacher needs or amenities?
teacher closet or cabinet to store coat, personal property, should lock.

Aids and Parent Helpers:

29. Are aids and/or parent helpers involved in your curriculum?
infrequently
30. How are they involved in instruction?

31. What are their furniture needs?

Other thoughts?

Reidenbaugh is the best classroom because it is isolated from the classrooms yet centrally located, large size, shape.

Practice room(s) should be acoustically separated - very important.

E-2

Brecht Educational Specifications:

Specialty Area: *Physical Education* **Date:** *6-26-98*
Interview with: *Doug Bailey* **Title:** *Coordinator*
Interviewed by: *John Riegel and David Anstrand*

General Background:

1. Will the teacher(s) be full time at Brecht?
   2 days / week
2. How many times a week will the teacher meet with student classes?
   grades 3-5, twice / week; grades 1 and 2, once a week; kindergarten, twice a week.
3. Will the teacher(s) have other responsibilities such as individual or small group lessons?
   no, except for possibility of adaptive physical education programs for handicapped students.
4. Briefly describe the curriculum taught to grades K-5.
   grades K-1, movement exploration designed to improve motor skills; starting at third grade, sports activities(basketball, floor hockey, etc.).
5. Will the teacher have involvement with the kindergarten classes? In what way?
   yes(see above)
6. Will the teacher be involved in other school activities such as special programs for parents, a field day, school thematic decorations, etc.?
   field day, gym show, etc.

Student Instruction:

7. Describe the instructional space(s) necessary to support the curriculum.
   large gymnasium space(can adapt to available space. Brecht gym is a little small. Bucher is just about right.
8. What student equipment is required?
   basketball goals(2 minimum)-portable rims, volley ball, chin-up bar, maybe ropes in the future.
9. How is furniture typically arranged in the instructional area?
   padding on walls.
10. What equipment is used by students, i.e., instruments, athletic equipment, etc.?
    mats, cones, hockey sticks, scooters.
11. How and where should this equipment be stored?
    in a decent sized storage closet.
12. What other student materials require storage? What quantities?
    N/A
13. What computer, audio/visual equipment is necessary?
    N/A
14. Is there any special equipment used in your curriculum?
    N/A
15. Are individual or small group instructional areas necessary?
    N/A
16. Chalkboards, whiteboards, projection screen and tackboards?
    portable chalkboard or dry erase board.
17. Are sinks or drinking fountains desired?
    yes, not in gym but adjacent to it.
18. What floor material(s) do you prefer in the instructional area?
    love a wood floor.
19. What about lighting, natural and artificial?
    existing is O.K.
20. Special wall colors, finishes?

existing is O.K.

21. Acoustics?
poor in existing Brecht gym.
22. (PE) Should student locker rooms be provided? Would they be used by the community?
optional for 4th and 5th graders to shower. John Riegel would like a shower facility.
23. Is student coat book pack storage required?
N/A
24. Describe any outdoor instructional area needs.
large grass area, ball field, large hard surface area.

Teacher Furniture/Storage:

25. What furniture should the teacher have?
desk, chair, file, table.
26. Files and teacher storage?
locker for changing clothes.
27. Does the PE teacher need a shower?
yes
28. Other teacher needs or amenities?
can not think of any.

Aids and Parent Helpers:

29. Are aids and/or parent helpers involved in your curriculum?
yes
30. How are they involved in instruction?
would monitor a work station
31. What are their furniture needs?
N/A

Other thoughts?

An ideal K-5 facility would have a court area for basketball and volleyball in the center. There would be a track surrounding the court area. The area inside the track could also be used for indoor soccer. There would be a climbing wall on one end of the gym. Two volleyball courts is a must.

Folding chair storage.

Manheim Township School District
School Road
P.O. Box 5134
Lancaster, PA 17606-5134
PHONE: (717) 569-8231
FAX: (717) 569-3729

DATE: June 1, 1998

TO: Educational Specifications Committee

FROM: David Anstrand and John Riegel

RE: Post Occupancy Survey Results

Our next meeting is scheduled for June 4, 1998 at 4:00 p.m. in the Neff Library Media Center. As time permits, please review the attached report of the survey results. The information is divided into three packets by building - Neff, Reidenbaugh and Nitrauer. May we suggest that you read the survey questions and then check the teacher responses on the attached sheets prior to our June 4 meeting. We even included a yellow place marker for your convenience.

There is a wealth of information from the Nitrauer, Reidenbaugh and Neff teachers in these survey results. This data will be helpful as we determine whether "great ideas" included in the planning of other district schools should be part of the Brecht specifications.

/sn

Attachments

The Mission of Manheim Township School District, building on its tradition of academic excellence, is to graduate students possessing personal integrity, a broad base of knowledge, an appreciation of cultural diversity and skills in thinking and communication all acquired through an innovative learning system which encourages creativity, individual development and prepares citizens for success in a global society.

Post Occupancy Classroom and Building Survey - May 1998

Teacher's Name:_____

School:_____

Grade:_____ Room Number:_____

A. Classroom

1. Would you judge your classroom to be 1) too large, 2) an appropriate size, or 3)too small? _____.
2. Do you prefer a rectangular shaped room or would some other shape benefit your eaching style? Explain: _____ _____.
3. Would it be a benefit if your classroom had a door to an adjacent classroom? Explain: _____.
4. (K-1 only) Would (does) your classroom benefit by having a restroom as part of your classroom? yes___, no___.
5. Is a sink in the classroom 1) necessary, 2) nice to have, 3) not very useful? _____. Is a drinking fountain as part of sink useful, yes____ , no____.
6. Do you like carpet in your classroom, yes____, no____.
7. Do you feel you have 1)enough windows, 2) too few windows or 3) too many windows? _____.
8. Do you adjust lighting levels in your classroom 1) frequently, 2) sometimes, 3) hardly ever? _____.
9. Do you open and close your windows 1) frequently, 2) sometimes, 3) hardly ever, 4) never? _____.
10. Can you maintain a comfortable temperature level in your classroom 1) all the time, 2) most of the time, 3) half the time, 4) seldom? _____.
11. How do you organize student desks: 1) rows, 2) clusters, 3) work groups, 4) circle or square, 5) against the wall, 6)various ways depending on task? _____
12. Would you prefer students to have 1) desks or 2) tables? _____.
13. Is the teacher's desk 1) too large, 2) adequate, 3)too small _____.
14. Is the students coat, boots and book bag area 1) more than adequate, 2) marginal, 3) inadequate? _____. Explain: _____.
15. Is the lockable teacher's cabinet 1) necessary, 2) useful but not necessary, or 3) not necessary? _____.
16. Do you have 1) more than enough counter space, 2) adequate counter space, 3) not enough counter space? _____.
17. Is cabinet space 1) more than enough, 2) adequate, 3) not enough? _____.
18. Do you have 1) too many book shelves, 2) adequate book shelves, or 3) not enough book shelves? _____
19. Do you prefer your 1) chalk board or would you prefer a 2) marker board? _____.
20. Is your chalk board area 1) too large, 2) adequate or 3) too small? _____.
21. Is your tack board area 1) too large, 2) adequate or 3) too small? _____.
22. Do you use cable TV 1) frequently, 2) sometimes, 3) hardly ever, 4) never? _____.
23. Do you use a VCR 1) frequently, 2) sometimes, 3) hardly ever, 4) never? _____.
24. Do you make calls to parents from your room 1) frequently, 2) sometimes, 3) hardly ever, 4) never? _____.
25. Do you use your computer 1) daily, 2) weekly, 3) monthly, 4) never? _____.

26. How many student computers would you like in your classroom, 1) one, 2) two, 5/5/985/5/983) three, 4) four or five, 5) more? _____. Explain: _____
27. Do your students use(or would use) the Internet 1) daily, 2) weekly, 3) monthly, 4) not part of my curriculum? _____.
28. What other audio visual aids do you use such as 1) overhead projector, 2) movie projector, 3) tape recorder, 4) film strip projector? _____. Other? _____
29. Do you(would you) use a 32" TV monitor which can be connected to your computer? yes _____, no _____.
30. (Neff) Can the entire class see the monitor 1) very well, 2) with some difficulty, 3) difficulty, 4) some students not at all? _____.
31. (Neff) Do you use the monitor for 1) computer driven notes, 2) CDRom's, 3) Internet, 4) VCR, 5) cable TV, 6) other(please comment)? _____. Comment: _____.
32. (Neff) Should every classroom have a monitor? yes _____, no _____. Comment: _____.
33. Would you describe your room finish colors as 1) cheerful, 2) appropriate, 3)boring, 4) bold, 5) timid, 6) inappropriate? _____. Comment? _____.
34. What suggestions do you have for future classroom design?

_____
_____
_____
_____
_____.

B. *Teacher's Lounge:*

1. Do you like round tables and chairs as the principal furniture? yes _____, no _____. Comment? _____.
2. Is counter space 1) more than adequate, 2) adequate, 3) less than adequate? _____.
3. Do you use the lounge furniture 1) frequently, 2) sometimes, 3) infrequently, 4) never? _____.
4. Is bulletin board space 1) generous, 2) adequate, 3) inadequate? _____.
5. Do you use the lounge telephone 1) frequently, 2) sometimes, 3) never? _____.
6. Should the lounge be planned for 1) one soda and one snack machine, 2) one soda and two snack machines or 3) one soda, one hot drink and two snack machines? _____.
7. Is the refrigerator 1) too large, 2) adequate, 3) not large enough? _____.
8. Do you (would you) use an ice maker? yes____, no _____.
9. Do you use the microwave oven 1) frequently, 2) sometimes, 3) never? _____.
10. What suggestions do you have for future classroom design? _____

_____
_____
_____.

C. *Teacher's Work Room:*

1. Do you use the teacher's workroom 1) daily, 2) twice-a-week, 3) once-a-week, 4) hardly ever? _____.
2. Do you use the laminator? yes _____, no _____.
3. Do you use the copier? yes _____, no _____.
4. What other equipment do you use in the work room? _____.
5. Is counter space 1) generous, 2) adequate, 3) less than adequate? _____.
6. Is storage space 1) generous, 2) adequate, 3) less than adequate? _____.

7. Comments?_____
_____
_____.

D. *Student Restrooms:*

1. Should restrooms have 1) entrance doors, 2) be open to corridor but unable to see in, 3) sinks be visable from corridor? _____.
2. Student restroom design thoughts? _____
_____.

E. *Other Building Design Issues:*

1. Please comment on other building features you feel work very well: _____
_____
_____.
2. Please comment on other building features you feel work poorly: _____
_____
_____.

Thank you for your input!

Nitrauer Post Occupancy Survey
May, 1998

1. 1) 0 2) 12 3) 1

2. Rectangle 9 Square 2

3. Yes 7 No 6
Explain: Door to library, emergency help, easier to share, implement team teaching.

4. Yes 6

5. 1) 12 2) 0 3) 1 Y 10 N 0

6. Yes 9 No 3

7. 1) 11 2) 2 3) 0

8. 1) 2 2) 7 3) 4

9. 1) 3 2) 4 3) 4 4) 1

10. 1) 0 2) 7 3) 4 4) 2

11. 1) 0 2) 1 3)2 4)0 5)0 6)5

12. 1) 5 2)7

13. 1) 0 2) 8 3) 4

14. 1) 1 2) 6 3) 3
Explain: No shared cubbies, more space, not enough space, too crowded, cramped with big backpacks

15. 1) 4 2) 5 3) 0

16. 1) 0 2) 9 3) 4

17. 1) 1 2) 9 3) 3

18. 1) 0 2) 5 3) 8

19. 1) 9 2) 3

20.	1)1	2) 11	3) 1			
21.	1) 0	2) 10	3) 1			
22.	1) 0	2) 1	3) 6	4) 6		
23.	1) 2	2) 7	3) 2	4) 2		
24.	1) 7	2) 5	3) 0	4) 1		
25.	1) 12	2) 0	3) 0	4) 0		

26.	1) 1	2) 2	3) 1	4) 4	5) 3	
27.	1) 1	2) 1	3) 5	4) 4		
28.	1) 10	2) 4	3) 9	4) 6		
29.	Yes 8	No 2				
30.	N/A					
31.	N/A					
32.	N/A					
33.	1) 1	2)6	3) 1	4) 0	5)0	6) 1

34. Suggestions: Round mat area, special meeting area, no rugs they smell, windows that open, more book shelves and cabinets, nooks and crannies for centers, a reading area loft, magnetic chalkboard, computers, storage, small fridge, keyless entry, skylights need blinds

B.

1.	Yes 7	No 2		
2.	1) 0	2) 4	3) 6	
3.	1) 4	2) 2	3) 2	4) 3

4.	1) 4	2) 6	3) 1
5.	1) 3	2) 7	3) 0
6.	1) 7	2) 0	3) 2
7.	1) 0	2) 2	3) 9
8.	Yes 9	No 2	
9.	1) 9	2) 1	3) 0

10. Suggestions: Chairs for rest, teacher lounge with privacy, 2 microwaves, built in magazine rack, more bathrooms for teachers,

C.

1.	1) 7	2) 2	3) 1	4) 1
2.	Yes 11	No 0		
3.	Yes 11	No 0		
4.	Equipment used:			
	Ellison Letter machine, spiral bookbinder, cutting board,opaque projector			
5.	1) 1	2) 3	3) 7	
6.	1) 0	2) 5	3) 6	
7.	Comments:			
	Teacher supplies in workroom need organized/replenished Workroom not built for working - needs tables and publishing center			

D.

1.	1) 0	2) 1	3) 11
2.	Suggestions: No entrance doors		

E.

1. Positive Features:

Auditorium is excellent
Great gym
Great courtyard
Central library location
Two copy areas
Phone system
Central Lobby area
Hallway grade level closets

Negative features:

More room for copiers
Teacher mailboxes are too high
Too much dust in the air
More Restrooms
Place for coats in cafeteria
Long Hallways
Better sound system in aud
Need access to phones 24 hrs.
Circular design-need access to other wings
Centrally located learning support room

Neff Post Occupancy Survey
May, 1998

1. 1) 0 2) 5 3) 4 "very cozy with 26 students"

2. Rectangle 7 Square 0 "L" shaped 2

3. Yes 4 No 4
Explain: Facilitates sharing, more shared teaching, sharing

4. Yes 1 No 1

5. 1) 8 2) 0 3) 0 Y 7 N 0

6. Yes 8 No 0

7. 1) 8 2) 0 3) 0

8. 1) 3 2) 3 3) 2

9. 1) 1 2) 5 3) 1 4) 0 "Needs screens"

10. 1) 4 2) 3 3) 2 4) 0 "Very humid"

11. 1) 0 2) 1 3) 2 4) 2 5) 1 6) 6

12. 1) 8 2) 0

13. 1) 0 2) 6 3) 2 Need " L" shaped desks

14. 1) 2 2) 2 3) 3
Explain: Hooks too small, too close, Need boot space, not enough space

15. 1) 5 2) 1 3) 0

16. 1) 1 2) 9 3) 0

17. 1) 2 2) 4 3) 2

18. 1) 0 2) 7 3) 1

19. 1) 3 2) 3 Both 2

G-8

9. 1) 4 2) 3 3) 1

10. Suggestions: 2 microwaves, copiers away from phone

C.

1. 1) 7 2) 1 3) 0 4) 0
2. Yes 5 No 1 PTO does lamination
3. Yes 7 No 0
4. Equipment used:
   Ellison Letter machine, spiral bookbinder, cutting board,opaque projector
5. 1) 0 2) 7 3) 3
6. 1) 1 2) 5 3) 0
7. Comments:
   Water saving toilets tend to clog easier

D.

1. 1) 2 2) 4 3) 3
2. Suggestions: No entrance doors

E.

1. Positive Features:

   Colored tiles in the hall
   Kids love the patterns
   Telephones - beneficial

   No area is "bad" for students
   Library is wonderful
   Lights turn off in restroom
   Window screens
   Ind. Temp Control
   Rug/vinyl

   Negative features:

   Crowded office area (3)
   Heating/cooling is never right
   Need hallway surfaces for student work displays
   Rotunda needs display space
   Office space is impractical
   Office is too far away
   Office workroom too small

   Classroom bookshelves are small

20. 1)0 2) 8 3) 0

21. 1) 0 2) 5 3) 4

22. 1) 1 2) 4 3) 2 4) 1

23. 1) 3 2) 4 3) 1 4) 0

24. 1) 8 2) 0 3) 0 4) 0 "Need portable phone"

25. 1) 8 2) 0 3) 0 4) 0

Page 2

26. 1) 1 2) 3 3) 2 4) 2 5) 0 "Need room"

27. 1) 0 2) 6 3) 1 4) 2

28. 1) 7 2) 2 3) 6 4) 5

29. Yes 7 No 1

30. 1) 6 2) 2 3) 0 4) 0

31. 1) 6 2) 4 3) 3 4) 4 5) 4 (Sound prob.)

32. Yes 7 No 0

33. 1) 5 2)4 3) 0 4) 0 5)0 6) 0

34. Suggestions: Need larger rooms, great poster drawers, counter space useful, 1 computer chair, 2 adult chairs, more storage, more outlets

B.

1. Yes 8 No 0
2. 1) 0 2) 4 3) 4
3. 1) 1 2) 1 3) 3 4) 3
4. 1) 3 2) 6 3) 0
5. 1) 1 2) 6 3) 1
6. 1) 5 2) 0 3) 2
7. 1) 0 2) 1 3) 6
8. Yes 5 No 3

Reidenbaugh Post Occupancy Survey
May, 1998

1. 1) 0 2) 13 3) 2

2. Rectangle 11 Square 0
Octagonal 1 Several alcoves

3. Yes 4 No 10
Explain: Promotes team teaching, takes away solid wall space, current doors are close enough, (unless move whole wall moves)

4. Yes 1 No 1

5. 1) 15 2) 1 3) 0 Y 12 N 1

6. Yes 15 No 0 Plus vinyl area

7. 1) 16 2) 0 3) 0

8. 1) 9 2) 4 3) 3 Dimmer switch?

9. 1) 4 2) 7 3) 5 4) 1 Stuff open windows

10. 1) 1 2) 8 3) 5 4) 1 AC never comfortable

11. 1) 0 2) 1 3) 1 4) 0 5) 0 6) 13 Horseshoe

12. 1) 12 2) 4

13. 1) 0 2) 15 3) 1 Need " L" shaped desks

14. 1) 0 2) 2 3) 13
Explain: Too small for kids, large class sizes - small room, too small for 2 students to share, coats are larger than lockers, not enough room for 5th graders-instruments, lunches, backpacks and coats

15. 1) 11 2) 3 3) 1

16. 1) 0 2) 10 3) 6

17. 1) 2 2) 10 3) 3

18. 1) 0 2) 2 3) 14

19. 1) 8 2) 4 Both 2

20. 1)3 2) 14 3) 0

21. 1) 0 2) 16 3) 0

22. 1) 0 2) 4 3) 10 4) 1Needs to ne more accessible

23. 1) 6 2) 8 3) 1 4) 0

24. 1) 13 2) 2 3) 0 4) 1 "Need portable phone"

25. 1) 15 2) 1 3) 0 4) 0

26. 1) 5 2) 1 3) 0 4) 9 5) 2
Computer cluster flexible clusters
We think "sm. goups" we need computer clusters
Computers are vital parts of the day
The lab is still the best situation

27. 1) 2 2) 5 3) 5 4) 3
"Not available in classroom, no access to internet"

28. 1) 15 2) 3 3) 16 4) 10
Laser Disc TV VCR

29. Yes 13 No 1(2 willing to try it)

30. NA

31. NA

32. NA

33. 1) 6 2)9 3) 1 4) 0 5)0 6) 1
Perfect colors, coordinated with neutral background

34. Suggestions: Need as many windows that can open as possible. Deeper shelves for posters (8 resonses). More open atmosphere. More bookshelves in classroom (high enough for 3 ringed binders). Upper cabinets are useless. Carpets stain easily. No skylights. Get rid of cubbies. Design room for more technology. Space needed for multiple

computer banks. Need computers linked to presentation hardware.

B.

1.	Yes 15	No 0		
2.	1) 1	2) 7	3) 9	Cozy and warm
3.	1) 3	2) 6	3) 7	4) 1
4.	1) 9	2) 6	3) 1	
5.	1) 3	2) 8	3) 4	
6.	1) 8	2) 2	3) 4	
7.	1) 0	2) 4	3) 15	Large faculty, side-by-side freezed not a good idea
8.	Yes 14	No 1		
9.	1) 12	2) 3	3) 0	

10. Suggestions: Reidenbaugh lounge is very, very nice. Need building refridgerator for luncheons, special treats, events

C.

1.	1) 14	2) 1	3) 1	4) 0
2.	Yes 15	No 1		
3.	Yes 16	No 0		

4. Equipment used: Letter machine, spiral bookbinder, cutting board, opague projector. Needed: Phone and computer

5.	1) 1	2) 14	3) 2
6.	1) 2	2) 15	3) 0

7. Comments: Dual tape recorder that copies audio tapes
We need space. All equipment should be in one room.
Less emphasis on "work room" --instead have more copiers available in the wings.

D.

1. 1) 4 2) 6 3) 7

2. Suggestions: Automatic flushing, water senses to turn off water, eliminate cross bars to hang on

E.

1. Positive Features:

Very generous classrooms
Computer lab off of library
Cluster of grade level rooms
Room off of library is great for large group instruction
All purpose room (104) is great- especially cooking facilities

Negative features:

Very humid. Climate control hard to regulate.
Need deeper shelves
Special events need one room for all school
Need more computers
Student storage inadequate

G-14

Post Occupancy Classroom Notes
May, 1998

Special Education

-Rectangle space gives room for one-to-one and large/small group instruction
-Another doorway provides another distraction
-2/3 computers would be helpful with drillwork and independent work
-Storage is always an issue---Students/ Staff need more.

ART

-Room needs to be large with a lot of natural light
-Another door? Just to the stockroom.
-Need slide projector
-An art room should be different! Every one likes the art room at Nitruaer(it was part of the gym-high ceiling and odd spaces and corners)
-Hallways should be bright and cheery.
-No more doors----Just more closets
-Make sure shelves in art room fit all paper sizes
-Movie projector, filmstrip projector
-Computer used weekly

Library Media Center

-Large rectangular shape is beneficial; from the circulation desk, the media specialist needs to be able to see all areas. Nonfiction stacks at Nitrauer prevent clear observation.
-Doorways from library to small group instruction rooms and computer labs are a plus.
-No windows to outside is not a good design.
-Nitrauer libraryis often cold.
--Yes, I would open windows if I could.
-Nitrauer workroom has adequate counter space.
-Phone, computer, VCR used daily/frequently
-5 computer workstations are nice. Make sure the new media centers have plenty of outlets.
-Overhead projector, filmsrip projector and projection box to computer are used
-The Internet is used daily.
-District media specialists should have input into design
-Nitrauer color scheme is timeless, wonderful colors
-Media center should be the hub of the school for integrating the curriculum.
-Media center and computer lab should be connected.
-Library needs windows

G-15

-Reidenbaugh library is appropriate size
-Sink in the library is nice
-Reid. has enough windows
-Climate is fine and the colors are cheerful.
-Reid. has plenty of library shelves.
-Internet used daily.
-Video projector used.

Gymnasium

- All reports say the Nitrauer gym is wonderful.
-Computer is used daily.

Reading Rooms

-Rooms with little corner areas are nice for separating groups
-Computers are needed for "drill" work in the reading centers
-Computers are used daily
-Equip with round tables to accomodate small groups

Guidance

-Conference area furniture should be conduciv to small groups
-Guidance set up should be office and attached room for conferences and groups
-Computer used daily
-Counselor should be easily accessible to all
-Guidance Office location at Reidenbaugh is excellent

Music

-The pentagon shape at Reid. is enjoyed by all and is spacious
-Computer is used daily
-Needed computers 5 or more! Comment: There is an opportunity out there for much technology musically. Music room computers need to be available.
-I think any music teacher would be thrilled with a classroom modeled after the one at Reid. Plenty of space to allow for movement.
-The auditorium capacity is limited.
-Plus. Special area teachers are located in the same area.
-Steps in front of the stage are too narrow in depth to allow students to stand comfortably. Steps in front also are not shaped for performances. Because they fan inward instead of outward.

G-16

Odds and Ends

-As students get bigger, rooms seem smaller
-A carpeted area in a tiled room is another option
-Hallway fountain water seems to taste bad
-Cable TV, monitors, phones and computers should be in every room
-Large paper could be stored in "vertical shelves"
-Teacher's Lounge? How about Faculty Room. I'd appreciate a change in terms.
-Children need apropriate sized desks/chairs. Clean air and windows that open with screens.
-We need to vent bathroom air directly outside
-Large common areas are needed
-large bulletin boards in lobby are helpful
-Teacher workrom should be separate from faculty room if parents will be allowed access.